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INTRO '87

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Chrysler's third quarter: A-OK

AUTOMOTIVE NEWS-JOE WILSSENS

Chrysler Corp. Chairman Lee A. Iacocca last week reported Chrysler's third-quarter earnings of $235 million. It was Chrysler's third best third quarter for net earnings and second best for operating earnings. Iacocca said he would call it Chrysler's best quarter ever "considering the kind of competitive environment we've been playing in."

Chrysler: More power, luxury

Bigger engines, vehicles on drawing board

By Edward Lapham and Mary Connelly
AUTOMOTIVE NEWS STAFF REPORTERS

Chrysler Motors' product plans for the early 1990s call for more luxury and increased horsepower.

Automotive News has learned that recent proposals within Chrysler call for that power to be supplied by two new V-6 engines designed and built by Chrysler — a 3.3-liter version due in the 1990 model year and a high-tech 3.8-liter overhead cam version in the 1991 model year.

The addition of the two new Chrysler-built V-6 engines to the 3.0-liter V-6 the company currently buys from Mitsubishi would mean that by 1992, as much as half of Chrysler's 1.3 million annual domestic car and minivan production could be powered by V-6 engines.

The move toward bigger engines is part of a broader strategy to move Chrysler Motor products up the scale, both in size and content. The new engines are especially important to the Chrysler brand, which will be the corporation's large- and luxury-car specialist.

Added V-6 capacity is also seen as a strong addition to the minivan line, especially in light of marketing by Ford Motor Co. and General Motors that stresses their minivans' towing capacity and commercial applications.

Automotive News has learned that Chrysler is leaning toward introducing both Dodge and Chrysler versions of the C-body — full-sized, upscale front-wheel-drive cars due in 1988 — as well as both Chrysler and Imperial versions of the Y-body — upscale, stretched versions of the C-car that are due in 1989. Also on the boards is a Chrysler-brand long-wheel-base minivan in addition to Plymouth and Dodge versions.

When asked about the stretched Chrysler minivan, Chrysler brand general marketing manager A.C. "Bud" Liebler said that model was not approved yet, but that when and if it is, it will "undoubtedly be named Town & Country."

That name, like "LeBaron" and "Imperial," are traditional Chrysler names expected to elicit strong marketing, nostalgic responses.

A Chrysler spokesman last week confirmed the 3.3-liter engine program, which was first disclosed during concession talks with UAW workers at the Trenton, Mich., engine plant, where the new engines will be built. However, he declined to comment on the 3.8-liter version.

see CHRYSLER, page 52

Big 3 earnings top year ago

By Michelle Krebs
AUTOMOTIVE NEWS STAFF REPORTER

DETROIT — The Big Three automakers' third-quarter performance was better than predicted: Combined earnings of $1.192 billion exceeded year-ago levels by 4 percent.

Earnings for the three companies had been expected to be down 30 percent, based on an average of estimates by 10 leading auto analysts. The analysts' average drastically underestimated earnings from General Motors and Ford Motor Co.

The analysts surveyed admitted GM's earnings were the most difficult to predict because they didn't know how large the operating loss would be and what tax credits and financial accounting mechanisms would be used to offset the loss.

Ford's earnings were uncertain because the automaker had sold off two operations during the period ended Sept. 30.

AUTOMAKERS' SALES, PROFITS (In Millions)

	GM	Ford	★
Third quarter			
1986 sales ...	$22,841.0	$14,365.8	$5,168.0
1985 sales ...	22,491.7	11,630.0	4,484.4
Third quarter			
1986 profit ..	$263.7	$693.3	$234.9
1985 profit ..	516.7	313.1	316.2
9 months			
1986 sales ...	$77,286.4	$46,453.4	$16,647.8
1985 sales ...	71,731.1	38,677.8	15,872.5
9 months			
1986 profit ..	$2,305.2	$2,500.0	$1,080.0
1985 profit ..	2,747.5	1,795.1	1,420.2

Third-quarter earnings for the Big Three in 1985 were $1.146 billion.

Quarterly sales for the Big Three totaled a record $42.4 billion, up 10 percent from $38.6 billion a year ago.

For the first nine months of this year, the Big Three earned $5.9 billion, compared with $6.0 billion a year ago. Sales so far have totaled $140.4 billion, up from 1985's $126.3 billion.

GENERAL MOTORS: GM reported net income of $264 million, down 49 percent from $517 million earned in the year-ago third quarter. Sales were a record $22.8 billion, up 1 percent from $22.5 billion. On a per-share basis, GM earned 56 cents in the quarter compared with $1.53.

GM reported an operating loss for the quarter of $339 million. That compares to an operating loss of $21 million in the same quarter a year ago.

GM said costly financing incentives, including its 2.9 percent program to clear inventories at the end of the model year, adversely affected third-quarter results. GM's operating loss was offset by a tax credit of $311 million because of its earnings decline and the continuing high level of amortization of U.S. investment tax credits.

During the third quarter, GM's profits as a percent of sales dropped to 1.2 percent compared with 2.3 percent in the 1985 third quarter. For the year to date, profit margins at GM are 3.0 percent, compared with 3.8 percent a year ago.

Working capital dropped to $4.9 billion as of Sept. 30, down from $6.3 billion on Sept. 30, 1985. Cash

see EARNINGS, page 50

Bringing sense to madness at Ford

By David Halberstam

Henry Ford I had outlived his era and his usefulness.

Once a popular figure with the average man, he had become known as one of the nation's leading labor baiters. He had helped usher in a new era of economic dignity for the common man, but he could not deal with the consequences.

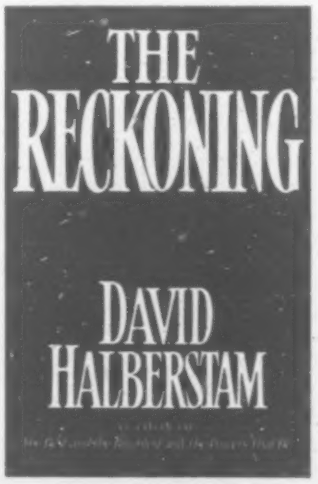
His public statements during the Depression, while millions suffered — including thousands upon thousands of his own workers — were perhaps the most pitiless ever uttered by any capitalist. He repeatedly said that the Depression was good for the country and the only problem was that it might not last long enough, in which case people might not learn enough from it.

His workers, embittered by his labor policies, marched against him in the '30s and were put down by Harry Bennett's truncheons and guns. His security people were so vicious that when Ford's workers marched, they wore masks over their faces to hide their identity.

In business he was overtaken by General Motors, which relentlessly modernized its design, its production and its marketing. GM fed the appetites Henry Ford I had helped create. In addition, GM inaugurated a dynamic that haunted the Ford company for the next 50 years: Buyers started out driving Fords when they were young and had little money and slowly, as their earnings rose, graduated to more expensive GM cars.

Ford's legacy was a complicated one. Forty years after his death few remembered the ugliness of his final years. The harshness of his actions had been softened by time.

see 'THE RECKONING,' page 26



GM speeds up plans to close 6 U.S. plants

By Michelle Krebs
AUTOMOTIVE NEWS STAFF REPORTER

DETROIT — General Motors is speeding up plans to close a half-dozen assembly plants and associated components plants.

GM said it plans to close several U.S. assembly and metal fabricating facilities by the end of next year.

"In the coming weeks," GM said, "employees at the affected operations in the United States will be notified, and we'll then be in a position to provide additional detail

see PLANTS, page 49

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GM's plans calm South African dealers Page 4
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EWSPAPER

Impending sale has GM's South African dealers relieved

By Jeremy Sinek, Michelle Krebs and Dave Zola
AUTOMOTIVE NEWS STAFF

General Motors dealers in South Africa are reacting with cautious optimism combined with a degree of relief to the news that GM is selling its South African subsidiary.

GM said last week that it would sell the South African firm to management and other local interests. GM's assembly plant in Port Elizabeth employs 3,000 people — 60 percent of them non-white — and GM has 200 dealers in South Africa.

GM said it had lost money in South Africa for several years and it could see no turnaround in the near future. GM also has been the target of anti-apartheid activists in the United States.

"We have been disappointed in the pace of change in ending apartheid," said GM Chairman Roger B. Smith.

GM President F. James McDonald said South Africa was diverting the attention of executives from other GM problems.

GM dealers in Johannesburg were cautious in their comments because the identities of the new owners were not yet known. Bob White, GM South African managing director, said details of the deal could be announced before Nov. 4, and the transfer of ownership would take place by Jan. 1, 1987.

All that is known of the new owner team is that it includes present GM executives and outside individuals. No financial institutions are said to be involved. Some ex-Ford personnel have been mentioned as being involved, as have some GM dealers, including individuals behind the largest GM dealer chain in South Africa, Williams-Hunt.

Although dealers are cautious, they also are optimistic because they already have in place a modern, coherent product range to sell. And they are relieved that weeks and months of uncertainty and speculation had ended.

Dealers welcomed the change to South African ownership, which they said will result in more flexible and motivated management.

"First, they won't have to run to Detroit all the time to get things passed," said one dealer. "They can make instant decisions.

"Some South African boys know their business better than the Americans did."

Another dealer's comments typified a widespread feeling that a strong product has been handicapped by inadequate marketing: "I don't think GM has done a good marketing job in the past," one dealer said. "Now we will have a South African company run by South Africans. I hope politics will go away and we can get the show on the road."

Dave Rosevear, managing director of Williams-Hunt, South Africa's largest GM dealership (its 10 outlets account for at least 20 percent of all GM sales in the country), said: "The main question in everybody's mind is how credible the new people are and what the financing arrangement is. . . .

"From a customer's point of view there's some confusion, but generally the news has been positively accepted."

Peter Searle, president of the Association of Automobile Manufacturers of South Africa, said there are too many manufacturers in South Africa, and the development does not improve that situation. Seven manufacturers serve a market that this year is expected to total 180,000 cars and 100,000 commercial vehicles.

If GM had folded, Volkswagen would have been the only carmaker left in the Port Elizabeth area — once the Detroit of the South African motor industry.

Rival carmakers secretly regret that GM's products have not disappeared from the market. They console themselves with the hope that the uncertainty will further undermine the company's already shaky hold on the South African car market.

GM Chairman Smith's statement earlier this month that GM was considering pulling out of South Africa was quickly picked up by the South African press. The management in South Africa was clearly embarrassed and did nothing to soothe a rash of rumors until White finally called the press conference.

The new owners will inherit a fine product range, but it is going to take some determined marketing to convince consumers that Opel, Isuzu and Suzuki — the lines now sold by GM — will be around after GM's name has gone from the subsidiary.

White said the team will start with a better balance sheet than the subsidiary has had in 15 years. He said the cornerstone of the deal is that GM will clear GM South African's debts. The amount was not revealed but is said to be up to $50 million.

It is expected that little money will actually change hands in 1987 for the assets of GM South African, which are valued at approximately $180 million. The buyers are almost certainly getting the company at a fire-sale price and will not have to pay anything until well into 1988.

"It will be a unique event for the South African motor industry," White said, "when a team totally dedicated to the motor business has the opportunity to compete against other manufacturers owned by either large conglomerates or foreign multinationals."

The agreement is expected to contain a buy-back clause that could be enacted if the political and economic climate stabilizes.

In the meantime, the restructured company will continnue to sell cars from GM's German subsidiary, Adam Opel, and commercial vehicles from its Japanese partners, Isuzu and Suzuki.

GM will receive income from licensing fees and from the sale of components from Germany and Japan, yet will be freed from the daily problems of South Africa's auto industry.

Although other non-automotive companies followed GM's lead last week in pulling out of South Africa, Ford Motor Co. Chairman Donald Petersen said his company has no plans to change the way it has been doing business there.

Two years ago, Ford bought a 42 percent interest in SAMCOR, which makes and distributes Ford vehicles and other makes.

Sales in South Africa continue to drop as prices rise

By Jeremy Sinek
STAFF CORRESPONDENT

JOHANNESBURG, South Africa — September new-car sales in South Africa dipped slightly for the second consecutive month. The decline coincided with more auto price hikes.

The sales figure of 15,091 cars was down 1.9 percent from the August total. However, the truck and bus total of 8,400 was up 2 percent from the August count.

Gains were posted in June (15,769) and July (16,778). A new company-car tax program had been expected to boost sales in September.

Last month's prediction by the nation's automobile manufacturers association that sales would range between 15,500 and 17,500 during the rest of the year now looks overoptimistic.

Despite a more favorable economic climate in other business sectors, auto sales have slipped as prices continue to climb on a quarterly and sometimes bi-monthly basis. The average new-car price now is 40 to 45 percent higher than it was a year ago.

The latest auto price hike accompanied a recent improvement in the exchange rate. The value of the South African rand has risen from about 39 to 45 U.S. cents.

Toyota, the market leader, posted the biggest price increases — 8 percent on Cressida sedans and 6 percent on commercial vehicles. The top-selling Corolla, which had a small price adjustment when the 1987 model year began last month, remains unchanged.

Nissan followed Toyota's lead, and Samcor (Ford, Mazda, Mitsubishi) was expected to fall in line.

German carmakers, however, seem less affected by exchange rate vagaries. Mercedes-Benz, BMW and Volkswagen predicted no increases until November.

SOUTH AFRICAN AUTO SALES

	9 mos. 1986	9 mos. 1985
BMW	10,116	9,611
General Motors	10,507	13,731
Mercedes-Benz *	13,808	15,826
Nissan	10,521	10,155
Samcor ‡	27,871	30,696
Toyota	34,648	36,069
Volkswagen	22,893	21,143
Others	2,454	13,216

* Mercedes and Honda
‡ Ford, Mazda and Mitsubishi

On a year-to-date basis, Volkswagen remains the South African industry's rising star. Despite an industrywide downturn of 11.7 percent (from 150,447 to 132,816) in car sales, VW increased its volume by 8.3 percent, from 21,143 to 22,893. Its market penetration rose from 14.1 percent to 17.2 percent.

Nissan and BMW also bucked the trend by posting volume gains. The big two, Toyota and Samcor, were down in volume but up in market share.

GM was the biggest loser in September. Its volume was down 23.5 percent from the same period of 1985, and its market share dipped from 9.1 percent to 7.9 percent.

There was a gain for Samcor's Mazda-clone Ford Laser and Meteor models. In September, Laser-Meteor (1,589 sales) was the third best-selling car in South Africa, behind the traditional top two, Corolla (2,575) and VW Jetta (2,051).

If Laser-Meteor figures are combined with those of the Mazda 323 — all are built on the same production lines — the Samcor clones were only 73 units short of outselling the market leader.

Ford Europe losing top stylist

Andrew Jacobson to lead staff there

By Richard Johnson
AUTOMOTIVE NEWS STAFF REPORTER

FRANKFURT, West Germany — One of the world's most acclaimed automotive stylists, Uwe Bahnsen, design vice president for Ford of Europe, will retire in December to join the Swiss branch of the Art Center College of Design.

Bahnsen, 56, has been head of the design team for the Scorpio, Sierra, Fiesta and Escort ranges, as well as the Cargo truck and the new Transit van.

He will be replaced by Andrew K. Jacobson, 44, an American who has worked with Bahnsen in Europe for the last five years. Jacobson currently is chief designer at Ford's Merkenich design studio near Cologne.

Jacobson will be Ford's chief designer in Europe. However, it is not clear whether he will immediately be given the title of vice president within Ford of Europe. He joined Ford in 1965 and has worked in Dearborn as well as at Ford design centers in Australia and the United Kingdom.

Bahnsen's early retirement continues a recent exodus of top stylists from Ford's European design staff. During the last two years, several of Bahnsen's key associates have moved to other European and U.S. companies. They included chief designers Trevor Creed, Patrick le Quement and executive designers Alan Jackson and Tom Scott.

Creed joined Chrysler; le Quement and Jackson moved to Volkswagen; and Scott became head of design at American Motors.

Uwe Bahnsen: His early retirement continues the exodus of top stylists from Ford's European design staff.

Ford officials have called the raids a tribute to pioneering aerodynamic designs of the Sierra and Scorpio in Europe and Tempo-Topaz, Thunderbird-Cougar and Taurus-Sable in the United States.

General Motors' European design staff at Adam Opel also has had a heavy turnover in the last two years. Talent raids on the U.S.-based companies may have been spurred by worldwide programs at Ford and GM to lower costs by reducing personnel.

Despite the drain, a Ford spokesman said last week that there is no shortage of styling talent at the company's European operations.

"The resources of Ford, with its different design centers worldwide, are quite huge," he said. "Uwe Bahnsen always said he had been part of a team."

Hamburg-born Bahnsen joined Ford in 1958 and was appointed to his present position in 1976. He will become director of education at the Art Center College of Design/Europe in January.

The Art Center College of Design is in Pasadena, Calif. Its European campus opened this fall in Latour-de-Peilz, Switzerland. The European campus is funded by European automakers, including Ford.

VW finance chief to quit; he'll become a consultant

By Richard Johnson
AUTOMOTIVE NEWS STAFF REPORTER

FRANKFURT, West Germany — Rolf Selowsky, Volkswagen's chief financial officer, will leave the company next May. His departure reportedly stems from a disagreement with Chairman Carl Hahn.

However, Selowsky, 56, a member of VW's management board since 1982, will sign a new five-year pact as consultant to Volkswagen. A company spokesman said Selowsky made the decision to step down.

The move is expected to be made official at the Nov. 21 meeting of the VW supervisory board.

No reasons for the change were given by Selowsky or the company last week. However, a company source indicated that Selowsky may have disagreed with Hahn's proposal to create a position for a financial controller with responsibilities for the group's new operations in Spain and China.

Hahn is said to have revealed the plan last spring. The new position could have conflicted with Selowsky's established duties.

Creation of the new controller position is expected to be discussed at the November meeting. The supervisory panel also will review a report by a consultant firm on how the new responsibilities would be structured.

Earlier this year, the company acquired 51 percent of Seat, the Spanish government-owned automaker. VW will raise the stake to 75 percent by the end of this year and is scheduled to assume full control by 1990.

Volkswagen has also set up a joint venture in China, assembling Santanas in cooperation with Shanghai Automobile and Tractor Industry Corp. The project, launched two years ago, includes increasing the car's local content and building a VW engine plant.

Selowsky will have been at VW for five years when his contract expires next year. He joined VW from Klöckner-Humboldt-Deutz, a West German engineering firm.

Makers see little change if retirement rules die

By Louise Kertesz and Geoff Sundstrom
AUTOMOTIVE NEWS STAFF REPORTERS

President Reagan is expected to sign into law a measure that eliminates mandatory retirement for most workers at any age, but automakers expect the new legislation to have little effect on their operations.

Prior to the new measure, companies were barred from setting a retirement age lower than 70.

Though retirement is mandatory in Big Three labor agreements, the new law would not require automakers to do anything before their current contracts expire. And — according to union and Big Three spokesmen — changing the language of their agreements would not change the fact that most people in the auto business want to retire before age 70.

UAW sources said that most auto workers want to retire by 65 and that those who stay beyond that age do so to get pension credits. The trend in recent bargaining has been to lower retirement ages, they pointed out, and workers take advantage of the "30-and-out" auto contract provision.

Mandatory retirement will still apply to some management personnel. The bill, which was approved by Congress and sent to the president Oct. 17, allows mandatory retirement to remain in force for executives entitled to $44,000 or more in annual pension benefits.

Under the new law, mandatory retirement would be abolished as of Jan. 1, 1987. But mandatory retirement provisions in labor agreements entered into prior to June 30, 1986, may be enforced until expiration or until Jan. 1, 1990, whichever comes sooner.

Another bill of related nature requires that pensions be funded beyond age 65 if a worker remains on the job.

That provision is contained in the Budget Reconciliation Act, already signed by the president.

In Chrysler Corp.'s agreement with the UAW, which runs until 1988, the mandatory retirement age is 70, as in the current federal law.

But pension credits can't be acquired after age 68 unless an employee has less than 10 years of service, a union spokesman said.

A Chrysler spokesman said that company officials in the personnel department believe "the new law would not have any significant effect on us."

He said the personnel staff said the number of people who stay on the job at Chrysler past age 65 is "minuscule."

Under the Chrysler contract, hourly workers can retire after 30 years. Managers also have that option, he said.

He said that in his 29 years of service, he knew of only one person in management who stayed beyond 65.

A union spokesman said the negotiated retirement age at Ford Motor Co. is 65.

In the Ford agreement, an hourly employee may work beyond that age to get pension credits, but the company can retire a person who is 65 or older for inability to perform efficiently, he said.

A Ford spokesman said, "Most people want to retire at about 65 anyway so they can enjoy the fruits of their labor. There are exceptions, of course."

He said that when the new contract is negotiated next year, "the language will be changed to reflect the new law."

He continued, "People can go on if they want to beyond age 70, but the effect on us will be minimal. People seem to want to retire at the normal age.

"Senior executives of a certain rank have been expected to retire at 65 and they have."

Asked if there have been exceptions, he recalled that John McDougall, Ford executive vice president — International Automotive Operations, stayed for one year beyond his 65th birthday at the company's request.

He also recalled that Jim Allen in the public affairs department stayed until he was 67 or 68.

The union spokesman said that a GM employee with 10 years of service can retire at 65 and get a pension.

He said that a GM hourly worker is automatically retired at the end of the month in which he turns 70. Only with the approval of the corporation can the worker stay beyond that, the spokesman said.

A GM spokesman said, "Obviously, we'll go by the law."

It is believed that the last GM vice president who stayed beyond age 65 was Don E. Ahrens, Cadillac Motor Car Division general manager in the 1950s. Ahrens reached 65 in 1955 and retired at the end of 1956.

An American Motors spokesman said that the new law should have no effect on AMC. Since 1978, there has been no mandatory retirement age for salaried employees.

He said that mandatory retirement was eliminated in the Kenosha, Wis., agreement signed in July 1985, since Wisconsin law bars mandatory retirement.

Though mandatory retirement is required in the Toledo, Ohio, agreement, the AMC spokesman said the rule has never been a problem. Toledo's contract expires in February 1988.

AUTOMOTIVE NEWS/JOE WILSSENS

Toyota's Robert McCurry

Toyota eyes 1 million in annual U.S. sales

By Jesse Snyder
AUTOMOTIVE NEWS STAFF REPORTER

Toyota Motor Sales U.S.A. expects to be the first importer to sell more than 1 million vehicles in a calendar year.

The company forecasts 1986 sales of 630,000 cars and 380,000 trucks, according to Robert McCurry, senior vice president. Sales of about 10,000 Corolla FX-16 hatchbacks, the first U.S.-assembled cars to be sold under the Toyota nameplate, will help push Toyota over the top, he said.

"Next year, we'll sell 650,000 cars and 380,000 trucks," McCurry said. "And by 1988 (when Toyota's Georgetown, Ky., assembly plant begins production), our car sales alone should reach 750,000.

". . . That total will exceed this year's car sales for such brands as Plymouth, Chrysler, Dodge and Lincoln-Mercury."

McCurry's projections assume that voluntary export restrictions on Japanese cars will be extended next year with virtually no increase in volume.

"We have to plan that way, although we do not believe continued restrictions are necessary for the health of domestic manufacturers or desirable for consumers," he said.

The stronger yen and the likelihood that political friction over the mounting U.S. trade deficit with Japan would assure continued quotas in some form prompted Toyota to speed up work on its Kentucky plant earlier this year.

The plant now is scheduled to be on-line by early 1988 — six months sooner than originally planned. When full capacity is reached, it will be able to produce 200,000 Corolla-type units annually.

McCurry said Toyota has no plans to add truck production in the United States despite a 25 percent import duty on light trucks.

To keep up with the projected sales, Toyota will add dealers for the first time since 1980 — about 25 this year and another 25 in 1987. Most will be in the Sunbelt and the East.

Toyota's now has 1,085 dealers, according to a company executive.

AUTOMOTIVE NEWS/JOE WILSSENS

Petersen: Ford does not plan any new plant construction in the near future

Ford plans to boost capacity for Taurus-Sable automatics

By Dave Zoia
AUTOMOTIVE NEWS STAFF REPORTER

Ford Motor Co. has decided to follow through on plans to expand capacity for automatic transaxles for Taurus and Sable.

Ford will boost output of the four-speed automatic (AXOD) transaxles at its Livonia, Mich., plant in order to meet demand for the unit in Taurus-Sable intermediate-sized front-wheel-drive cars.

Ford would not say how much additional capacity will be added in Livonia, but published reports indicated an increase of 100,000 units annually was planned. The tooling program is expected to take several months.

The Livonia plant has the capacity to assemble 500,000 AXOD transaxles a year. Annual assembly capacity of Taurus-Sable is more than 500,000 units.

In an Automotive News interview last week, Ford Chairman Donald E. Petersen said the expanded transaxle output is needed if Ford is to increase Taurus-Sable sales.

"The capacity increase gets the transmissions in better balance with the rest of the system," Petersen said. "It turned out we just didn't have quite the right balance between AXODs and engines."

The four-speed automatic is the only transaxle available with the Taurus-Sable 3-liter V-6 engine.

In addition to Taurus and Sable, the AXOD likely will be offered on a front-drive Continental expected to debut in the 1988 model year.

Ford expects 1987 to be a big year for Taurus and Sable.

"In 1987, we have the first calendar year where we'll have the full potential to build those in real volume — in excess of 500,000 if the market is there for them," Petersen said. "That has to be good news for Ford Motor Co."

Ford has been building many of its cars and trucks near capacity for the last two years.

"We haven't made all the final decisions, but it seems to me we will be continuing at or very close to that," Petersen said.

Petersen said Ford does not plan any new plant construction in the near future but will continue to increase capacity where possible at existing plants.

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Mazda to offer 4-wheel steering on cars in U.S., Japan next year

By John A. Russell
AUTOMOTIVE NEWS STAFF REPORTER

NEW YORK — Mazda Motor Corp. will introduce an optional four-wheel-steering system in both Japan and the United States within one year.

The system controls the steering direction and angle of the vehicle's rear wheels in response to vehicle speed.

Tadahiko Takiguchi, manager of Mazda's chassis design engineering division, said last week that the four-wheel-steering system will be used on a new model and introduced in Japan a few months before it bows in the United States.

Takiguchi would not give details of that model. However, he said the system will be used in conjunction with an anti-lock braking system, which the company believes is necessary for optimum performance of the steering system.

The four-wheel-steering system will cost consumers "approximately the same as ABS," Takiguchi said. No firm price has been set.

Mazda's four-wheel-steering system debuted in 1983 on the MX-02 engineering prototype vehicle.

At low to medium speeds, the system steers the rear wheels in the opposite direction of the front wheels, reducing the turning radius of the car and facilitating tight turning and parking.

At high speeds, the rear wheels are turned in the same direction as the front wheels which improves straight-line stability and cornering stability, Mazda said.

According to Mazda documents, the steering angle of the rear-wheel is not necessarily in proportion to that of the front wheel. It is closely modulated according to the vehicle's speed. The steering ratio of the rear wheels to the front wheels in each speed range is adjusted automatically by a control unit equipped with a vehicle speed sensor and a steering angle sensor.

Takiguchi also said the system will be offered only on the high-line versions of the new model.

Program encourages extra time for repairs

By Arthur Flax
AUTMOTIVE NEWS STAFF REPORTER

AUTOMOTIVE NEWS/ARTHUR FLAX

Rocky Walker, a GM senior technical writer, determines the time needed to make a repair under warranty at the GM Tech Center.

Chevrolet Motor Division is conducting a pilot program under which dealership technicians are encouraged to spend additional time on warranty repairs to make sure they are performed correctly.

"Our goal is to improve customer satisfaction," said Richard E. Lannen, sales manager for service and customer satisfaction in the Chevrolet central office.

". . . The No. 1 item that dissatisfies customers is not having their car fixed right the first time."

Lannen said technicians involved in the Chevrolet Master Repair Program will be paid for the extra time it takes to evaluate an auto malfunction before replacing parts or performing the repair procedure and to road test (or otherwise evaluate) the repair.

The pilot program also requires the dealer to phone the customer within 24 hours after the car leaves the shop to see if the repair has been performed correctly.

"In the past, a car might be written up by the service manager for handling problems," Lannen said. "The technician might immediately align the suspension. Now we want the technician to evaluate what is wrong before going to the next step."

He said the program also encourages service managers to write the "complete story" on the repair order. Technicians will be paid for time spent removing and testing a component that turns out to be functioning correctly.

The Master Repair Program started last December with 20 dealers; 800 of Chevrolet's 5,000 dealers now are involved. Lannen said Chevrolet will take another eight or 10 months to evaluate the program before deciding its future.

"During the past several years, we have given service managers the authority to approve extra time for repairs," Lannen said. "That authority was not always used. Now we are making it clear that we want them to use this extra time."

Throughout the industry, manufacturers generally offer some means of compensating technicians for efforts to make sure a car is repaired right.

A Chrysler representative said technicians are expected to complete a repair. Chrysler has a form for dealers to explain why the repair took longer than specified in the flat-rate manual.

Burt Schimpke, manager of the advanced service engineering department for Ford Parts and Service Division, said certain repairs follow strict diagnostic routines with a specific amount of time allowed for the repair.

In other cases, he said, "you can't define the diagnostic routine. An example would be diagnosing squeaks and rattles. We allow the technician the actual time it takes and requests for that time are made with the district office."

In another category, technicians who have gone through Ford's intensive, five-day, EEC-IV (electronic engine control) certification course are allowed to use their judgment and charge whatever time is necessary.

Charles M. Bounds, owner of Charles Bounds Chevrolet Inc., in Denison, Texas, said the Chevrolet program allows technicians to include under warranty charges all time spent searching for a problem. Bounds is a member of the Chevrolet National Dealer Council.

"This program allows the technician to go that extra mile," he said. ". . . It offers tangible proof that Chevrolet and General Motors are committed to product quality."

Bounds said warranty expenses have not increased significantly at his dealership since the pilot program began.

Before the program, he said, cars that weren't fixed right the first time could be brought back to the dealership and a warranty claim could be written for a different type of malfunction.

With the pilot program, Bounds said, the car often will have one claim with an additional three-tenths to six-tenths of an hour for warranty time. That time, he said, is often spent road-testing the vehicle.

"In my opinion, there is a potential for savings in the long term," he said.

Lannen said, "We are hopeful costs won't run away. If it's a wash, we'll be happy. We are most concerned with improving customer satisfaction."

Bounds predicted that the increase in the diagnostic time allowance will be most beneficial for technicians seeking to fix problems that are not immediately apparent, such as vibrations and rattles.

He said electronic engine and vehicle controls, which have frustrated technicians trained on older vehicles, will become the easiest components to fix as computerized diagnostic equipment becomes more available and electronics are improved.

Lannen included electronic malfunctions as the types of problems that could be better serviced under the pilot warranty program.

Byron Scott, director of home office service for Buick Motor Division, said Buick is not conducting a similar program but has surveyed 60 dealers for their reaction.

"In general," he said, "most technicians in the industry feel there is a place for such a program."

Dealer service business dropped in August, but stayed above '85 level

By Arthur Flax
AUTOMOTIVE NEWS STAFF REPORTER

Service and parts business at new-car dealerships in August was lower than in some months this year, but it remained above the 1985 level.

Service volume for the first eight months of 1986 also outpaced the volume during the corresponding 1985 period.

The Automotive News Service Index found that shop business at dealerships in August amounted to 102.6 percent of the volume recorded in August 1985.

August was the fifth straight month in which service volume topped that of the year-ago month.

In the first eight months of 1986, service volume was 105 percent of that in the same 1985 period.

"We had a record month in July," said a Chevrolet dealer in the South whose business declined in August. "Also, school begins in August. It seems like people hold back a little at this time."

Other dealers also attributed the declines to end-of-summer doldrums.

A Big Three source predicted that indicators would show an increase in service business for September as a result of incentives, with more new-car customers entering the dealerships.

"When customers are buying cars, they are typically selling cars," he said. "And, in anticipation of selling their old cars, they have a tendency to bring their cars in for the small repairs that they have been putting off."

He predicted service business would continue to show an increase in October as a result of new cars returning for warranty service.

A Dodge-BMW dealer in the Northwest said that business had increased slightly. He credited "increased tourist traffic."

Some dealers who reported service increases in August said they made extra efforts to improve business.

A Buick dealer in the Northeast said, "Business increased as a result of longer working hours and additional mechanics. Also, we put a new service scheduling computer in place."

SERVICE INDEX
102.6*

	August, '86 vs. August, '85	8 mos., '86 vs. 8 mos., '85
Gross Profit on All Labor and P&A Sales	+2.1%	+6.8%
Repair Orders Written	−0.8%	+0.2%
Total Labor Sales (Customer & Warranty)	+3.2%	+8.9%
Shop Parts Sales (Customer & Warranty)	+6.3%	+6.4%
Sales of All P&A	+2.2%	+2.8%

*—Survey by Automotive News shows that dealers' service and parts business in August, 1986, was 102.6 percent of business in August, 1985. Service business in the first 8 months of 1986 was 105.0 percent of business in the corresponding period in 1985.

A Ford dealer in the Midwest whose service business increased slightly said he knew of no reason for the increase, "other than that we did some newspaper and radio advertising."

A Buick-Pontiac dealer in the Midwest said his volume increased because of a greater number of large jobs. "Dollar sales per repair order were much higher," he said.

In August, shop parts sales (customer paid and warranty) showed the biggest gain, up 6.3 percent.

Total labor sales (customer paid and warranty) were up 3.2 percent; sales of all parts and accessories were up 2.2 percent; and gross profit on all labor, parts and accessories sales climbed 2.1 percent.

Repair orders written were down 0.8 percent.

In addition, parts and accessories sales to off-premises customers were down 0.9 percent in August.

Total labor sales registered the biggest gain for the first eight months of 1986, climbing 8.9 percent over the 1985 period. Other indicators showing gains through August were gross profit on all labor, parts and accessories sales, up 6.8 percent; shop parts sales, up 6.4 percent; sales of all parts and accessories, up 2.8 percent and repair orders written, up 0.2 percent.

Parts and accessories sales to off-premises customers were down 0.3 percent through August 1986.

Chrysler staging seminars on car buying, maintenance

SHOP TALK

ARTHUR FLAX

Chrysler Motors has been conducting seminars to provide information to the public on buying and maintaining automobiles.

Unlike the company's "Right From the Start Car Care Seminar," which is held at dealerships for recent buyers of new Chrysler products, the AutoInfo seminars have been held in hotels and a public library so as not to put pressure on the participants to buy autos.

Originally designed for women, the seminars have attracted a 50-50 mix of men and women.

Since March, the seminars have been held in New Orleans; Dallas; Chicago; and Windsor, Ontario.

At the seminars, participants are advised to ask to see the dealership's service department and to meet the service manager before making the decision to buy a car.

Participants are told that dealers "sincerely hope you will return for your service needs. If you are not satisfied with the dealership's service department during the buying phase, you should consider going to a different dealership."

Kurt's service advice

Dealers might improve their service business by following the advice of independent garage owner Charles Kurt, of Kurt's Auto and Truck Center, Rockford, Ill.

Kurt, who said business is up 35 percent this year, told participants at the Congress of Automotive Repair and Service, "Your success is based on your image. The question the customer asks is 'Are you competent to fix my car?' If your garage is neat and clean, it goes a long way toward building your image."

Kurt runs a clean shop staffed by competent personnel and makes a point of selling his image.

He has appeared on television shows discussing such topics as winter car preparation and how to avoid service rip-offs.

He is also building a classroom in his service facility to teach customers the basics of car care. Kurt trains his technicians and others in the area (at cost) in the classroom.

He invites special interest groups as well as customers to his seminars. One group was offered a further class on understanding the function of the car so they would be better able to communicate with the technician.

Sixty of the 80 people in the group signed up.

"Most of the problem in the service industry is a lack of understanding by consumers of what is involved in a repair," Kurt said. "If consumers understand how complex the car is and how hard it is to pinpoint problems, they can learn to communicate the things that can help us pinpoint the problems."

He said consumers should be aware of when an automobile malfunctions — is it right after starting the engine or is it after the engine has been running for a while — and how to describe the malfunction.

Advice on gasoline

A Chevrolet dealer service bulletin lists brands of gasoline advertised to have detergent properties to remove deposits from port fuel injectors or to keep port fuel injectors clean.

The bulletin says the claims of the gasoline suppliers are not based on General Motors data, "but we have no reason to doubt the truth of the claims."

EPA mileage ratings for 1987 models

TWO SEATERS

Est. MPG City	Est. MPG Hwy.	Car Line	CID & Fuel System	Trans.
52	57	Honda Civic Coupe HF	91-3bc	M5
45	50	Honda Civic Coupe HF	91-□3bc	M5
31	36	Honda Civic Coupe	91-3bc	M5
30	33	Honda Civic Coupe	91-FI	M5
29	34	Honda Civic Coupe	91-3bc	L4
26	32	Toyota MR2	97-FI	M5
25	34	Ford EXP	113-FI	M5
25	35	Pontiac Fiero	151-FI	M5
25	32	Toyota MR2	97-FI	L4
25	32	Subaru XT-DL	109-*FI	M5
24	32	Pontiac Fiero	151-FI	L3
23	28	Bertone X1/9	91-FI	M5
18	24	Pontiac Fiero	173-FI	L3
18	28	Pontiac Fiero	173-FI	M5
18	26	Nissan 300ZX	181-FI	L4
18	26	Nissan 300ZX	181-FI	M5
18	24	Nissan 300ZX Turbo	181-FI	M5
17	23	Mazda RX-7	80-FI	L4
17	23	Mazda RX-7 Turbo	80-FI	M5
17	24	Mazda RX-7	80-FI	M5
17	24	Nissan 300ZX Turbo	181-FI	L4
16	25	Chevrolet Corvette	350-FI	L4
16	25	Chevrolet Corvette Convertible	350-FI	L4
13	15	Maserati Biturbo Spyder	152-2bc	A3
13	17	Jaguar XJ-SC	326-FI	A3
13	18	Ferrari 328 GTS-GTB	194-FI	M5
10	15	Ferrari Testarossa	302-FI	M5

MINICOMPACTS

Est. MPG City	Est. MPG Hwy.	Car Line	CID & Fuel System	Trans.
54	58	Chevrolet Sprint ER	61-2bc	M5
37	43	Suzuki Forsa Turbo	61-FI	M5
37	43	Pontiac Turbo Firefly	61-FI	M5
37	43	Chevrolet Turbo Sprint	61-FI	M5
27	34	Toyota Celica Convertible	122-FI	M5
26	34	Toyota Celica Convertible	122-FI	L4
24	29	Volkswagen Cabriolet	109-FI	M5
23	25	Volkswagen Cabriolet	109-FI	A3
21	27	Porsche 944	151-FI	M5
19	23	Porsche 944	151-FI	A3
18	24	Alfa Romeo GTV	152-FI	M5
13	15	Maserati Biturbo	152-2bc	A3
13	18	Ferrari 3.2 Mondial-Cabriolet	194-FI	M5

SUBCOMPACTS

Est. MPG City	Est. MPG Hwy.	Car Line	CID & Fuel System	Trans.
44	49	Pontiac Firefly	61-2bc	M5
44	49	Suzuki Forsa	51-2bc	M5
44	49	Chevrolet Sprint	61-2bc	M5
38	40	Pontiac Firefly	61-2bc	A3
38	40	Suzuki Forsa	61-2bc	A3
38	40	Chevrolet Sprint	61-2bc	A3
38	41	Subaru Justy	73-2bc	M5
37	43	Honda Civic	82-□3bc	M4
37	41	Isuzu I-Mark	90-2bc	M5
37	41	Chevrolet Spectrum	90-2bc	M5
37	41	Pontiac Sunburst	90-2bc	M5
36	41	Toyota Tercel	89-1bc	M4
34	38	Dodge Colt	90-2bc	M4
34	38	Plymouth Colt	90-2bc	M4
34	38	Mitsubishi Mirage	90-2bc	M4
33	39	Isuzu I-Mark	90-2bc	M5
32	37	Dodge Colt	90-2bc	M5
32	37	Plymouth Colt	90-2bc	M5
32	37	Mitsubishi Mirage	90-2bc	M5
32	40	Nissan Sentra Honeybee	98-2bc	M5
31	33	Isuzu I-Mark	90-2bc	A3
31	33	Chevrolet Spectrum	90-2bc	A3
31	36	Subaru Hatchback	97-2bc	M4
31	33	Pontiac Sunburst	90-2bc	A3
31	38	Toyota Tercel	89-1bc	M5
30	35	Honda Civic	91-3bc	M5
30	33	Honda Civic	91-FI	M5
29	33	Dodge Colt	90-2bc	L3
29	33	Plymouth Colt	90-2bc	L3
29	33	Mitsubishi Mirage	90-2bc	L3
29	34	Toyota Tercel	89-1bc	L3
28	35	Renault Alliance Convertible	105-*FI	M5
28	34	Chevrolet Chevette CS	98-2bc	M4
28	33	Toyota Corolla Sport	97-2bc	M5
28	32	Subaru Hatchback	97-2bc	M5
28	34	Pontiac 1000	98-2bc	M4
27	34	Toyota Celica	122-FI	M5
27	35	Chevrolet Chevette CS	98-2bc	M5
27	32	Honda Civic	91-3bc	L4
27	33	Toyota Corolla Sport	97-2bc	L4
27	30	Nissan Sentra Honeybee	98-2bc	L3
27	35	Pontiac 1000	98-2bc	M5
26	34	Toyota Celica	122-FI	L4
26	32	Toyota Corolla Sport	97-FI	M5
26	30	Volkswagen Fox	109-FI	M4
26	30	Acura Integra	97-FI	M5
26	32	Nissan Pulsar NX	98-FI	M5
26	35	Nissan Sentra Coupe	98-FI	M5
26	36	Pontiac Sunbird Convertible	122-FI	M5
25	33	Chevrolet Cavalier Convertible	121-FI	M4
25	34	Chevrolet Cavalier Convertible	121-FI	M5
25	35	Dodge Charger	135-2bc	M5
25	30	Chevrolet Chevette CS	98-2bc	L3
25	31	Dodge Colt turbo	98-FI	M5
25	31	Plymouth Colt turbo	98-FI	M5
25	32	Mitsubishi Cordia	122-2bc	M5
25	29	Toyota Corolla FX16	97-FI	M5
25	31	Acura Integra	97-FI	L4
25	31	Mitsubishi Mirage turbo	98-FI	M5
25	31	Ford Mustang	140-FI	M5
25	31	Honda Prelude	119-FI	M5
25	31	Honda Prelude	112-2bc	M5
25	31	Nissan Sentra Coupe	98-FI	L3
25	32	Subaru XT	109-*FI	M5
25	35	Plymouth Turismo	135-2bc	M5
25	30	Pontiac 1000	98-2bc	L3
25	30	Audi 4000	109-FI	M5
24	31	Chevrolet Cavalier Convertible	121-FI	L3
24	26	Dodge Colt turbo	98-FI	L3
24	26	Plymouth Colt turbo	98-FI	L3
24	26	Mitsubishi Cordia	122-2bc	L3
24	30	Toyota Corolla FX16	97-FI	L4
24	28	Renault GTA Convertible	120-*FI	M5
24	26	Mitsubishi Mirage turbo	98-FI	L3
24	30	Honda Prelude	119-FI	L4
24	28	Nissan Pulsar NX	98-FI	L3
24	29	Volkswagen Scirocco	109-FI	M5
24	27	Subaru XT	109-*FI	L3
24	30	Pontiac Sunbird Convertible	122-FI	L3
24	26	Mitsubishi Tredia	122-2bc	L3
24	31	Mitsubishi Tredia	122-2bc	M5
23	28	Renault Alliance Convertible	105-*FI	A3
23	29	Toyota Celica	122-FI	L4
23	29	Toyota Celica	122-FI	M5
23	27	Dodge Charger	135-2bc	A3
23	30	Honda Prelude	112-2bc	L4
23	30	Nissan Pulsar NX	98-FI	M5
23	25	Volkswagen Scirocco	109-FI	A3
23	28	Volkswagen Scirocco 16V	109-FI	M5
23	25	Subaru Hatchback	109-2bc	L3
23	28	Subaru XT turbo	109-FI	M5
23	27	Subaru XT 4wd turbo	109-FI	M5
23	27	Plymouth Turismo	135-2bc	A3
23	27	Audi 4000	109-FI	A3
22	29	Mitsubishi Cordia turbo	110-FI	M5
22	27	Dodge Daytona	152-FI	L3
22	32	Dodge Daytona	152-FI	M5
22	27	Chrysler LeBaron Convertible	152-FI	L3
22	32	Chrysler LeBaron Convertible	152-FI	M5
22	24	Subaru XT turbo	109-FI	L3
22	24	Subaru XT 4wd turbo	109-FI	A3
22	29	Mitsubishi Tredia turbo	110-FI	M5
22	28	Nissan 200SX	120-FI	M5
21	26	Saab 900 Convertible turbo	121-FI	M5
21	31	Pontiac Sunbird Conv. turbo	121-FI	M5
21	27	Nissan 200SX	120-FI	L4
21	28	BMW 3-Series	164-*FI	M5
20	26	Chevrolet Cavalier Convertible	173-FI	L3
20	29	Dodge Daytona turbo	135-FI	M5
20	29	Dodge Lancer Convertible turbo	135-FI	M5
20	29	Chrysler Laser-Daytona turbo	135-FI	M5
20	29	Chrysler LeBaron Convertible turbo	135-FI	M5
20	27	Pontiac Sunbird Conv. turbo	121-FI	L3
20	27	BMW 3-Series	164-*FI	L4
19	27	Chevrolet Camaro	173-FI	L4
19	27	Chevrolet Cavalier Convertible	173-FI	M5
19	28	Dodge Charger turbo	135-FI	M5
19	25	Audi Coupe GT	136-FI	M5
19	24	Dodge Daytona turbo	135-FI	A3
19	27	Pontiac Firebird/Trans Am/ Formula	173-FI	L4
19	24	Dodge Lancer Convertible turbo	135-FI	A3
19	24	Chrysler Laser-Daytona turbo	135-FI	A3
19	24	Chrysler LeBaron Convertible turbo	135-FI	A3
19	26	Nissan 200SX	181-FI	M5
18	24	Chrysler Conquest turbo	156-FI	L4
18	23	Chrysler Conquest turbo	156-FI	M5
18	23	Audi Coupe GT	136-FI	A3
18	24	Alfa Romeo Milano	152-FI	M5
18	27	Ford Mustang	302-FI	L4
18	21	Saab 900 Convertible turbo	121-FI	A3
18	24	Mitsubishi Starion turbo	156-FI	L4
18	23	Mitsubishi Starion turbo	156-FI	M5
18	23	Toyota Supra turbo	180-FI	L4
18	23	Toyota Supra	180-FI	L4
18	23	Toyota Supra turbo	180-FI	M5
18	26	Nissan 200SX	181-FI	L4
18	26	Nissan 300ZX 2 + 2	181-FI	L4
18	26	Nissan 300ZX 2 + 2	181-FI	M5
18	22	Audi 4000CS Quattro	136-FI	M5
17	25	Chevrolet Camaro	305-FI	L4
17	24	Chevrolet Camaro	305-4bc	L4
17	26	Chevrolet Camaro	173-FI	M5
17	25	Pontiac Firebird/Trans Am/ Formula	305-FI	L4
17	24	Pontiac Firebird/Trans Am/ Formula	305-4bc	L4
17	26	Pontiac Firebird/Trans Am/ Formula	173-FI	M5
17	23	Toyota Supra	180-FI	M5
16	25	Chevrolet Camaro	350-FI	L4
16	25	Chevrolet Camaro	305-4bc	M5
16	26	Chevrolet Camaro	305-FI	M5
16	25	Pontiac Firebird/Trans Am/ Formula	350-FI	L4
16	25	Pontiac Firebird/Trans Am/ Formula	305-4bc	M5
16	26	Pontiac Firebird/Trans Am/ Formula	305-FI	M5
16	21	BMW 6-Series	209-*FI	L4
16	22	BMW 6-Series	209-*FI	M5
15	19	Jaguar XJ-6	258-FI	A3
13	15	Maserati Biturbo 425	152-2bc	A3
13	17	Jaguar XJ-S	326-FI	A3
8	10	Rolls-Royce Bentley Continental	412-FI	A3
8	10	Rolls-Royce Corniche II	412-FI	A3

COMPACTS

Est. MPG City	Est. MPG Hwy.	Car Line	CID & Fuel System	Trans.
37	45	Ford Escort diesel	122-FI	M5
37	45	Lincoln-Mercury Lynx diesel	122-FI	M5
36	41	Volkswagen Golf diesel	97-FI	M5
34	41	Renault Alliance	85-*FI	M4
33	40	Renault Alliance	85-*FI	M5
32	38	Renault Alliance	85-*FI	M4
30	37	Toyota Corolla	97-2bc	M5
29	37	Renault Alliance	105-*FI	M5
29	37	Chevrolet Nova	97-2bc	M5
28	32	Toyota Corolla	97-2bc	L3
28	35	Toyota Corolla	97-2bc	L4
28	34	Mazda 323	98-FI	M5
28	32	Chevrolet Nova	97-2bc	L3
28	35	Nissan Sentra	98-2bc	M5
27	34	Honda Accord	119-2bc	M5
27	31	Renault Alliance	85-*FI	A3
27	34	Toyota Camry	122-FI	M5
26	36	Oldsmobile Firenza	122-FI	M5
26	34	Volkswagen Golf	109-FI	M5
26	30	Renault GTA	120-*FI	M5
26	31	Volkswagen GTI	109-FI	M5
26	34	Volkswagen Jetta	109-FI	M5
26	31	Volkswagen Jetta GLI	109-FI	M5
26	30	Ford Laser	98-FI	M4
26	30	Mazda 323	98-FI	M4
26	32	Mazda 626	122-FI	M5
26	30	Nissan Sentra	98-2bc	L3
26	36	Buick Skyhawk	122-FI	M5
26	36	Pontiac Sunbird	122-FI	M5
25	31	Honda Accord	119-FI	M5
25	34	Chevrolet Beretta	121-FI	M5
25	31	Toyota Camry	122-FI	L4
25	33	Chevrolet Cavalier	121-FI	M4
25	34	Chevrolet Cavalier	121-FI	M5
25	34	Cadillac Cimarron	121-FI	M5
25	34	Chevrolet Corsica	121-FI	M5
25	34	Ford Escort	113-FI	M5
25	31	Oldsmobile Firenza	122-FI	L3
25	33	Oldsmobile Firenza	121-FI	M4
25	34	Plymouth Horizon	135-2bc	M5
25	30	Ford Laser	98-FI	A3
25	34	Lincoln-Mercury Lynx	113-FI	M5
25	30	Mazda 323	98-FI	A3
25	34	Dodge Omni	135-2bc	M5
25	33	Dodge Shadow	135-□FI	M5
25	32	Dodge Shadow	135-FI	M5
25	31	Buick Skyhawk	122-FI	L3
25	33	Buick Skyhawk	121-FI	M4
25	31	Subaru Sedan 3-door	109-*FI	M5
25	31	Pontiac Sunbird	122-FI	L3
25	33	Pontiac Sunbird	121-FI	M4
25	32	Plymouth Sundance	135-FI	M5
25	33	Plymouth Sundance	135-□FI	M5
25	34	Ford Tempo	140-FI	M5
25	34	Lincoln-Mercury Topaz	140-FI	M5
24	30	Honda Accord	119-2bc	L4
24	30	Honda Accord	119-FI	L4
24	29	Renault Alliance	105-*FI	A3
24	30	Chevrolet Beretta	121-FI	L3
24	31	Chevrolet Cavalier	121-FI	L3
24	31	Chevrolet Corsica	121-FI	L3
24	31	Oldsmobile Firenza	121-FI	L3
24	27	Volkswagen Jetta GLI	109-FI	A3
24	31	Buick Skyhawk	121-FI	L3
24	26	Subaru Sedan 3-door	109-*FI	L3
24	27	Peugeot 505 turbodiesel	152-FI	L4
23	30	Cadillac Cimarron	121-FI	L3
23	27	Volkswagen Golf	109-FI	A3
23	28	Volkswagen GTI 16V	109-FI	M5
23	27	Plymouth Horizon	135-2bc	A3
23	27	Volkswagen Jetta	109-FI	A3
23	29	Volkswagen Jetta GLI 16V	109-FI	M5
23	29	Mazda 626	122-FI	L4
23	27	Dodge Omni	135-2bc	A3
23	27	Dodge Shadow	135-□FI	A3
23	28	Dodge Shadow	135-FI	A3
23	28	Nissan Stanza	120-FI	M5
23	28	Subaru sedan 3-door turbo	109-FI	M5
23	28	Plymouth Sundance	135-FI	A3
23	27	Plymouth Sundance	135-□FI	A3
22	32	Oldsmobile Calais	151-FI	L3
22	33	Oldsmobile Calais	151-FI	M5
22	32	Pontiac Grand Am	151-FI	L3
22	32	Pontiac Grand Am	151-FI	M5
22	28	Mazda 626 Turbo	122-FI	M5
22	32	Buick Somerset-Skylark	151-FI	L3
22	32	Buick Somerset-Skylark	151-FI	M5
22	25	Subaru sedan 3-door turbo	109-FI	A3
22	25	Subaru sedan 3-door 4wd turbo	109-FI	M5
22	27	Ford Tempo	140-FI	A3
22	30	Ford Tempo	140-FI	M5
22	27	Lincoln-Mercury Topaz	140-FI	A3
22	30	Lincoln-Mercury Topaz	140-FI	M5
22	28	Volvo 240DL-240GL	141-FI	M5
21	31	Pontiac Grand Am	121-FI	M5
21	27	Saab 900 Turbo	121-FI	M5
21	26	Saab 900	121-FI	M5
21	27	Buick Skyhawk Turbo	121-FI	L3
21	31	Buick Skyhawk Turbo	121-FI	M5
21	27	Nissan Stanza	120-FI	L4
21	23	Subaru sedan 3-door 4wd turbo	109-FI	A3
21	27	Pontiac Sunbird Turbo	121-FI	L3
21	31	Pontiac Sunbird Turbo	121-FI	M5
21	24	Volvo 240DL-240GL	141-FI	A4
20	26	Chevrolet Beretta	173-FI	L3
20	26	Chevrolet Cavalier	173-FI	L3
20	26	Cadillac Cimarron	173-FI	L3
20	26	Chevrolet Corsica	173-FI	L3
20	26	Oldsmobile Firenza	173-FI	L3
20	27	Mitsubishi Galant	143-FI	L4
20	27	Mitsubishi Galant	143-FI	M5
20	27	Pontiac Grand Am	121-FI	L3
20	29	Dodge Shadow Turbo	135-FI	M5
20	29	Plymouth Sundance Turbo	135-FI	M5
20	23	Ford Tempo all-wheel-drive	140-FI	A3
20	23	Lincoln-Mercury Topaz all-wheel-drive	140-FI	A3
20	24	BMW 5-Series	164-*FI	M5
20	23	Peugeot 505 sedan	132-*FI	L4
20	23	Peugeot 505 sedan	120-*FI	L4
19	27	Chevrolet Beretta	173-FI	M5
19	27	Oldsmobile Calais	181-FI	L3
19	27	Chevrolet Cavalier	173-FI	M5
19	27	Cadillac Cimarron	173-FI	M5
19	27	Chevrolet Corsica	173-FI	M5
19	24	Toyota Cressida	168-FI	M5
19	27	Oldsmobile Firenza	173-FI	M5
19	27	Pontiac Grand Am	181-FI	L3
19	28	Dodge Omni Turbo	135-FI	M5
19	24	Volkswagen Quantum	136-FI	M5
19	21	Saab 900	121-FI	A3
19	22	Saab 900	121-FI	A3
19	22	Saab 900 Turbo	121-FI	A3
19	24	Dodge Shadow Turbo	135-FI	A3
19	23	Dodge Shadow Turbo	135-□FI	A3
19	28	Dodge Shadow Turbo	135-□FI	M5
19	27	Buick Somerset-Skylark	181-FI	L3
19	24	Plymouth Sundance Turbo	135-FI	A3
19	23	Plymouth Sundance Turbo	135-□FI	A3
19	28	Plymouth Sundance Turbo	135-□FI	M5
19	22	Peugeot 505 turbo sedan	131-*FI	L4
19	24	Peugeot 505 turbo sedan	131-*FI	M5
18	27	Lincoln-Mercury Cougar	302-FI	L4
18	24	Toyota Cressida	168-FI	L4
18	24	Nissan Maxima	181-FI	L4
18	26	Nissan Maxima	181-FI	M5
18	22	Volkswagen Quantum	136-FI	A3
18	27	Ford Thunderbird	302-FI	L4
18	24	BMW 5-Series	164-*FI	L4
18	22	Peugeot 505 sedan	174-*FI	L4
18	23	Peugeot 505 sedan	132-*FI	M5
18	22	Peugeot 505 sedan	174-*FI	M5
16	21	BMW 5-Series	209-*FI	L4
16	22	BMW 5-Series	209-*FI	M5
15	19	BMW 7-Series	209-*FI	L4
15	20	BMW 7-Series	209-*FI	M5
8	10	Rolls-Royce Camargue	412-FI	A3

MID-SIZE CARS

Est. MPG City	Est. MPG Hwy.	Car Line	CID & Fuel System	Trans.
25	32	Dodge Aries	135-FI	M5
25	32	Plymouth Reliant	135-FI	M5
24	32	Dodge Lancer	135-FI	M5
24	32	Chrysler LeBaron GTS	135-FI	M5
23	28	Dodge Aries	135-FI	A3
23	26	Plymouth Caravelle	135-FI	A3
23	26	Dodge Lancer	135-FI	A3
23	26	Chrysler LeBaron	135-FI	A3
23	26	Chrysler LeBaron GTS	135-FI	A3
23	28	Plymouth Reliant	135-FI	A3
23	26	Dodge 600	135-FI	A3
23	28	Volvo 740-760	141-FI	M4
22	27	Dodge Aries	152-FI	L3
22	27	Plymouth Caravelle	152-FI	L3
22	32	Chevrolet Celebrity	151-FI	L3
22	32	Buick Century	151-FI	L3
22	32	Oldsmobile Cutlass Ciera	151-FI	L3
22	27	Dodge Lancer	152-FI	L3
22	32	Dodge Lancer	152-FI	M5
22	27	Chrysler LeBaron	152-FI	L3
22	32	Chrysler LeBaron	152-FI	M5
22	27	Chrysler LeBaron GTS	152-FI	L3
22	32	Chrysler LeBaron GTS	152-FI	M5
22	27	Chrysler New Yorker	152-FI	L3
22	27	Plymouth Reliant	152-FI	L3
22	27	Dodge 600	152-FI	L3
22	32	Pontiac 6000	151-FI	L3
22	25	Volvo 740-760	141-FI	L4
20	26	Chevrolet Celebrity	173-FI	L3
20	28	Chevrolet Celebrity	173-FI	L4
20	26	Buick Century	173-FI	L3
20	28	Buick Century	173-FI	L4
20	26	Oldsmobile Cutlass Ciera	173-FI	L3
20	28	Oldsmobile Cutlass Ciera	173-FI	L4
20	29	Dodge Lancer Turbo	135-FI	M5
20	29	Chrysler LeBaron Turbo	135-FI	M5
20	29	Chrysler LeBaron GTS Turbo	135-FI	M5
20	26	Pontiac 6000	173-FI	L3
20	25	Volvo 740-760 Turbo	141-FI	M4
19	24	Plymouth Caravelle Turbo	135-FI	A3
19	27	Chevrolet Celebrity	173-FI	M5
19	24	Oldsmobile Cutlass Supreme	231-2bc	L3
19	24	Pontiac Grand Prix	231-2bc	L3
19	24	Pontiac Grand Prix	262-FI	L3
19	26	Pontiac Grand Prix	262-FI	L4
19	24	Dodge Lancer Turbo	135-FI	A3
19	24	Chrysler LeBaron Turbo	135-FI	A3
19	24	Chrysler LeBaron GTS Turbo	135-FI	A3
19	24	Chevrolet Monte Carlo	262-FI	L3
19	26	Chevrolet Monte Carlo	262-FI	L4
19	24	Chrysler New Yorker Turbo	135-FI	A3
19	24	Buick Regal	231-2bc	L3
19	26	Audi 5000S	136-FI	M5
19	24	Dodge 600 Turbo	135-FI	A3
19	27	Pontiac 6000	173-FI	L4
19	27	Pontiac 6000	173-FI	M5
19	22	Volvo 740-760 Turbo	141-FI	A4
18	25	Oldsmobile Cutlass Supreme	307-4bc	L4
18	25	Buick Regal	307-4bc	L4
18	22	Audi 5000CS Turbo	136-FI	A3
18	26	Audi 5000CS Turbo	136-FI	M5
18	22	Audi 5000S	136-FI	A3
17	27	Lincoln-Mercury Continental	302-FI	L4
17	23	Oldsmobile Cutlass Supreme	307-4bc	L3
17	25	Cadillac Eldorado	249-FI	L4
17	24	Pontiac Grand Prix	305-4bc	L4
17	27	Lincoln-Mercury Mark VII	302-FI	L4
17	24	Chevrolet Monte Carlo	305-4bc	L4
17	23	Buick Regal	307-4bc	L3
17	25	Buick Regal Turbo	231-FI	L4
17	25	Cadillac Seville	249-FI	L4
17	25	Audi 5000CS Quattro Turbo	136-FI	M5
16	21	Dodge Diplomat	318-2bc	L3
16	21	Plymouth Gran Fury	318-2bc	L3
16	21	Chrysler Newport-Fifth Avenue	318-2bc	L3
9	10	Rolls-Royce Bentley Eight/ Bentley Mulsanne	412-FI	A3
9	10	Rolls-Royce Silver Spirit/ Silver Spur	412-FI	A3

LARGE CARS

Est. MPG City	Est. MPG Hwy.	Car Line	CID & Fuel System	Trans.
21	28	Saab 9000 Turbo	121-FI	M5
21	26	Saab 9000	121-FI	M5
19	26	Saab 9000 Turbo	121-FI	A4
18	25	Cadillac Brougham	307-4bc	L4
18	23	Chevrolet Caprice	262-FI	L3
18	25	Chevrolet Caprice	307-4bc	L4
18	27	Chevrolet Caprice	262-FI	L4
18	23	Saab 9000	121-FI	A4
17	25	Cadillac Fleetwood-DeVille	249-FI	L4
17	27	Lincoln-Mercury Grand Marquis	302-FI	L4
17	24	Cadillac Limousine	249-FI	L4
17	27	Ford LTD Crown Victoria	302-FI	L4
17	27	Lincoln-Mercury Town Car	302-FI	L4
16	24	Chevrolet Caprice	305-4bc	L4
8	10	Rolls-Royce Silver Spur Limo	412-FI	A3

SMALL STATION WAGONS

Est. MPG City	Est. MPG Hwy.	Car Line	CID & Fuel System	Trans.
30	35	Honda Civic Wagon	91-3bc	M5
29	31	Toyota Tercel Wagon 2wd	89-2bc	A3
29	36	Toyota Tercel Wagon 2wd	89-2bc	M5
28	32	Honda Civic Wagon	91-3bc	L4
28	33	Mazda 323 Wagon	98-FI	M5
28	35	Nissan Sentra Wagon	98-2bc	M5
27	34	Toyota Camry Wagon	122-FI	M5
26	36	Oldsmobile Firenza Cruiser	122-FI	M5
26	30	Volkswagen Fox GL Wagon	109-FI	M4
26	36	Buick Skyhawk Wagon	122-FI	M5
26	36	Pontiac Sunbird Wagon	122-FI	M5
26	30	Toyota Tercel Wagon 4wd	89-2bc	M5
25	31	Toyota Camry Wagon	122-FI	L4
25	33	Chevrolet Cavalier Wagon	121-FI	M4
25	34	Chevrolet Cavalier Wagon	121-FI	M5
25	29	Honda Civic Wagon 4wd	91-3bc	M5
25	31	Oldsmobile Firenza Cruiser	122-FI	L3
25	33	Oldsmobile Firenza Cruiser	121-FI	M4
25	30	Mazda 323 Wagon	98-FI	A3
25	29	Nissan Sentra Wagon	98-2bc	L3
25	33	Buick Skyhawk Wagon	121-FI	M4
25	30	Subaru Wagon	109-*FI	M5
25	31	Pontiac Sunbird Wagon	122-FI	L3
25	33	Pontiac Sunbird Wagon	121-FI	M4
24	31	Chevrolet Cavalier Wagon	121-FI	L3
24	29	Dodge Colt Vista	122-2bc	M5
24	29	Plymouth Colt Vista	122-2bc	M5
24	31	Oldsmobile Firenza Cruiser	121-FI	L3
24	28	Nissan Sentra Wagon 4wd	98-FI	M5
24	31	Buick Skyhawk Wagon	121-FI	L3
24	30	Buick Skyhawk Wagon	122-FI	L3
24	26	Subaru Wagon	109-*FI	L3
24	25	Toyota Tercel Wagon 4wd	89-2bc	A3
23	24	Dodge Colt Vista	122-2bc	L3
23	24	Plymouth Colt Vista	122-2bc	L3
23	24	Mitsubishi Space Wagon	122-2bc	L3
23	28	Subaru Wagon Turbo	109-FI	M5
22	24	Subaru Wagon Turbo	109-FI	A3
22	25	Subaru Wagon 4wd Turbo	109-FI	M5
21	23	Subaru Wagon 4wd Turbo	109-FI	A3
19	23	Volkswagen Quantum Wagon	136-FI	M5
18	24	Nissan Maxima Wagon	181-FI	L4
18	22	Volkswagen Quantum Wagon	136-FI	A3
17	21	Volkswagen Quantum Syncro Wagon	136-FI	M5

MID-SIZE STATION WAGONS

Est. MPG City	Est. MPG Hwy.	Car Line	CID & Fuel System	Trans.
24	32	Dodge Aries Wagon	135-FI	M5
24	32	Plymouth Reliant Wagon	135-FI	M5
24	27	Peugeot 505 Turbodiesel Wagon	152-FI diesel	L4
23	26	Dodge Aries Wagon	135-FI	A3
23	26	Plymouth Reliant Wagon	135-FI	A3
23	27	Mercedes-Benz 300TD turbodiesel Wagon	183-FI	A4
22	27	Dodge Aries Wagon	152-FI	L3
22	32	Chevrolet Celebrity Wagon	151-FI	L3
22	27	Plymouth Reliant Wagon	152-FI	L3
22	28	Nissan Stanza Wagon 2wd	120-FI	M5

Est. MPG City	Hwy.	Car Line	CID & Fuel System	Trans.
22	27	Chrysler Town & Country Wagon	152-FI	L3
22	28	Volvo 240DL-240GL Wagon	141-FI	M5
22	29	Volvo 740-760 Wagon	141-FI	M4
21	28	Buick Century Wagon	151-FI	L3
21	28	Oldsmobile Cutlass Cruiser	151-FI	L3
21	25	Volvo 240DL-240GL Wagon	141-FI	A4
21	28	Pontiac 6000 Wagon	151-FI	L3
20	25	Nissan Stanza Wagon 2wd	120-FI	L4
20	23	Peugeot 505 Station Wagon	120-☆FI	L4
20	26	Volvo 740-760 Wagon	141-FI	L4
20	25	Volvo 740-760 Turbo Wagon	141-FI	M4
19	24	Chevrolet Celebrity Wagon	173-FI	L3
19	27	Chevrolet Celebrity Wagon	173-FI	L4
19	28	Chevrolet Celebrity Wagon	173-FI	M5
19	24	Buick Century Wagon	173-FI	L3
19	27	Buick Century Wagon	172-FI	L4
19	24	Oldsmobile Cutlass Cruiser	173-FI	L3
19	27	Oldsmobile Cutlass Cruiser	173-FI	L4
19	24	Chrysler Town & Country Turbo	135-FI	A3
19	25	Audi 5000S Wagon	136-FI	M5
19	22	Peugeot 505 Turbo Wagon	131-☆FI	L4
19	24	Pontiac 6000 Wagon	173-FI	L3
19	27	Pontiac 6000 Wagon	173-FI	L4
19	28	Pontiac 6000 Wagon	173-FI	M5
19	22	Volvo 740-760 Turbo Wagon	141-FI	A4
18	24	Toyota Cressida Wagon	168-FI	L4
17	25	Audi 5000CS Quattro Turbo Wagon	136-FI	M5
17	22	Audi 5000S Wagon	136-FI	A3
16	24	Oldsmobile Custom Cruiser	307-4bc	L4

LARGE STATION WAGONS

Est. MPG City	Hwy.	Car Line	CID & Fuel System	Trans.
17	27	Lincoln-Mercury Grand Marquis Wagon	302-FI	L4
17	27	Ford LTD Crown Victoria Wagon	302-FI	L4
16	24	Chevrolet Caprice Wagon	307-4bc	L4
16	24	Buick LeSabre/Electra Wagon	307-4bc	L4
16	24	Pontiac Safari Wagon	307-4bc	L4

SMALL PICKUP TRUCKS

Est. MPG City	Hwy.	Car Line	CID & Fuel System	Trans.
35	39	Isuzu P'Up 2wd diesel	137-FI	M4
32	35	Isuzu P'Up 2wd diesel	137-FI	M5
31	33	Isuzu P'Up 2wd turbodiesel	137-FI	M5
28	30	Ford Ranger 2wd turbodiesel	140-FI	M5
27	28	Ford Ranger 4wd turbodiesel	140-FI	M5
26	26	Isuzu P'Up 4wd turbodiesel	137-FI	M5
26	31	Toyota Truck 2wd	144-□2bc	M4
25	31	Isuzu P'Up 2wd	119-□2bc	M4
25	28	Ford Ranger Pickup 2wd	140-FI	M5
24	29	Subaru Brat 4wd	109-2bc	M4
24	28	Subaru Brat 4wd	109-□2bc	M4
24	26	Ford Ranger Pickup 4wd	140-FI	M5
24	29	Toyota Truck 2wd	144-2bc	M4
23	28	Isuzu P'Up 2wd	119-2bc	M4
23	27	Dodge Ram 50 2wd	122-2bc	A4
23	28	Dodge Ram 50 2wd	122-2bc	M5
23	27	Ford Ranger Pickup 2wd	122-2bc	M5
23	29	Chevrolet S10 Pickup 2wd	151-FI	M5
23	29	GMC S15 Pickup 2wd	151-FI	M5
23	27	Mitsubishi Truck 2wd	122-2bc	A4
23	28	Mitsubishi Truck 2wd	122-2bc	M5
23	25	Toyota Truck 2wd	144-FI	A4
23	28	Toyota Truck 2wd	144-FI	M5
22	27	Ford Courier	122-2bc	M5
22	27	Mazda B2000/B2200/B2600	122-2bc	M5
22	26	Isuzu P'Up 2wd	138-2bc	M5
22	27	Chevrolet S10 Pickup 2wd	151-FI	M4
22	27	GMC S15 Pickup 2wd	151-FI	M4
22	26	Nissan Truck 2wd	146-FI	M5
22	24	Toyota Truck 2wd	144-□2bc	A4
22	25	Toyota Truck 2wd	144-2bc	A4
22	26	Toyota Truck 2wd	144-□2bc	M5
22	25	Toyota Truck 2wd	144-2bc	M5
21	26	Mazda B2000/B2200/B2600	122-2bc	M4
21	23	Isuzu P'Up 2wd	138-□2bc	A3
21	23	Isuzu P'Up 2wd	138-2bc	A3
21	26	Isuzu P'Up 2wd	138-□2bc	M5
21	24	Dodge Ram 50 2wd	156-2bc	A4
21	26	Ford Ranger Pickup 2wd	140-FI	L4
21	27	Chevrolet S10 Pickup 2wd	151-FI	L4
21	27	GMC S15 Pickup 2wd	151-FI	L4
21	24	Mitsubishi Truck 2wd	156-2bc	A4
21	24	Toyota Truck 2wd Turbo	144-FI	M5
20	26	Dodge Ram 50 2wd	156-2bc	M5
20	26	Mitsubishi Truck 2wd	156-2bc	M5
20	25	Nissan Truck 2wd	146-FI	L4
19	24	Isuzu P'Up 4wd	138-2bc	M5
19	23	Isuzu P'Up 4wd	138-□2bc	M5
19	24	Ford Ranger Pickup 2wd	179-FI	M5
18	24	Ford Ranger Pickup 2wd	179-FI	L4
18	22	Ford Ranger Pickup 4wd	179-FI	M5
18	23	Chevrolet S10 Pickup 2wd	173-FI	M4
18	24	Chevrolet S10 Pickup 2wd	173-FI	M5
18	23	GMC S15 Pickup 2wd	173-FI	M4
18	24	GMC S15 Pickup 2wd	173-FI	M5
17	22	Ford Ranger Pickup 4wd	179-FI	L4
17	19	Chevrolet S10 Pickup 2wd	173-FI	L3
17	24	Chevrolet S10 Pickup 2wd	173-FI	L4
17	19	GMC S15 Pickup 2wd	173-FI	L3
17	24	GMC S15 Pickup 2wd	173-FI	L4
17	20	Nissan Truck 2wd	181-FI	L4
16	23	Nissan Truck 2wd	181-FI	M5

STANDARD PICKUP TRUCKS

Est. MPG City	Hwy.	Car Line	CID & Fuel System	Trans.
28	30	Jeep Comanche 2wd turbodiesel	126-FI	M5
23	25	Toyota 1Ton Truck 2wd	144-FI	A4
23	28	Toyota 1Ton Truck 2wd	144-FI	M5
22	25	Jeep Comanche 2wd	150-★FI	M4
22	27	Dodge Dakota 2wd	135-2bc	M5
22	25	Chevrolet T10 Pickup 4wd	151-FI	M4
22	25	GMC T15 Pickup 4wd	151-FI	M4
21	25	Jeep Comanche 4wd	150-★FI	M4
21	22	Toyota Truck 4wd	144-FI	L4
21	24	Toyota Truck 4wd	144-FI	M5
21	26	Chevrolet T10 Pickup 4wd	151-FI	M5
21	26	GMC T15 Pickup 4wd	151-FI	M5
20	24	Jeep Comanche 2wd	150-★FI	M5
20	23	Jeep Comanche 4wd	150-★FI	M5
20	24	Chevrolet R10 2wd diesel	379-□FI	M4
20	24	Chevrolet R10 2wd diesel	379-□FI	M4C
20	24	GMC R15 2wd diesel	379-□FI	M4
20	24	GMC R15 2wd diesel	379-□FI	M4C
19	24	Jeep Comanche 2wd	150-★FI	L4
19	24	Jeep Comanche 4wd	150-★FI	L4
19	20	Dodge Power Ram 50 4wd	156-2bc	A4
19	23	Dodge Power Ram 50 4wd	156-2bc	M5
19	23	Chevrolet R10 2wd diesel	379-□FI	L4
19	23	GMC R15 2wd diesel	379-□FI	L4
19	20	Mitsubishi Truck 4wd	156-2bc	A4
19	23	Mitsubishi Truck 4wd	156-2bc	M5
19	21	Toyota Truck 4wd	144-2bc	M5
19	22	Toyota Truck 4wd	144-□2bc	M5
19	23	Chevrolet T10 Pickup 4wd	151-FI	L4
19	23	GMC T15 Pickup 4wd	151-FI	L4
18	22	GMC Caballero Pickup 2wd	262-FI	L3
18	23	GMC Caballero Pickup 2wd	262-FI	L4
18	23	Jeep Comanche 2wd	242-☆FI	M5
18	21	Dodge Dakota 2wd	239-2bc	L3
18	24	Dodge Dakota 2wd	239-2bc	M5
18	22	Chevrolet El Camino Pickup 2wd	262-FI	L3
18	23	Chevrolet El Camino Pickup 2wd	262-FI	L4
18	20	Chevrolet R20 2wd diesel	379-□FI	M4C
18	20	GMC R25 Pickup 2wd diesel	379-□FI	M4C
18	21	Toyota Truck 4wd	144-FI	M5
18	20	Chevrolet V10 4wd diesel	379-□FI	M4
18	19	Chevrolet V10 4wd diesel	379-□FI	M4C
18	20	GMC V15 Pickup 4wd diesel	379-□FI	M4
18	19	GMC V15 Pickup 4wd diesel	379-□FI	M4C
18	19	Chevrolet V20 4wd diesel	379-□FI	M4C
18	19	GMC V25 Pickup 4wd diesel	379-□FI	M4C
17	22	Jeep Comanche 4wd	242-☆FI	M5
17	19	Dodge Dakota 4wd	239-2bc	L3
17	19	Chevrolet R10 Pickup 2wd	262-FI	A3
17	21	Chevrolet R10 Pickup 2wd	262-FI	L4
17	20	Chevrolet R10 Pickup 2wd	262-FI	M3/M4C
17	20	Chevrolet R10 Pickup 2wd	262-FI	M4
17	19	GMC R15 Pickup 2wd	262-FI	A3
17	21	GMC R15 Pickup 2wd	262-FI	L4
17	20	GMC R15 Pickup 2wd	262-FI	M3/M4C
17	20	GMC R15 Pickup 2wd	262-FI	M4
17	22	Chevrolet R20 2wd diesel	379-□FI	L4
17	22	GMC R25 Pickup 2wd diesel	379-□FI	L4
17	20	Nissan Truck 4wd	146-FI	M5
17	21	Chevrolet T10 Pickup 4wd	173-FI	M4
17	23	Chevrolet T10 Pickup 4wd	173-FI	M5
17	21	GMC T15 Pickup 4wd	173-FI	M4
17	23	GMC T15 Pickup 4wd	173-FI	M5
16	22	GMC Caballero Pickup 2wd	305-4bc	L4
16	21	Jeep Comanche 2wd	242-☆FI	L4
16	21	Jeep Comanche 4wd	242-☆FI	L4
16	21	Dodge Dakota 4wd	239-2bc	M5
16	17	Dodge D100/D150 Pickup 2wd	225-□1bc	L3
16	20	Dodge D100/D150 Pickup 2wd	225-□1bc	M4
16	18	Dodge D100/D150 Pickup 2wd	225-□1bc	M4C
16	17	Dodge D250 Pickup 2wd	225-□1bc	L3
16	18	Dodge D250 Pickup 2wd	225-□1bc	M4C
15	22	Chevrolet El Camino Pickup 2wd	305-4bc	L4
16	19	Jeep J-10 STD Pickup Truck 4wd	258-2bc	A3
16	22	Chevrolet T10 Pickup 4wd	173-FI	L4
16	22	GMC T15 Pickup 4wd	173-FI	L4
16	20	Chevrolet V10 4wd diesel	379-□FI	L4
16	18	Chevrolet V10 Pickup 4wd	262-FI	M4C
16	20	GMC V15 Pickup 4wd diesel	379-□FI	L4
16	18	GMC V15 Pickup 4wd	262-FI	M4C
16	20	Chevrolet V20 4wd diesel	379-□FI	L4
16	20	GMC V25 Pickup 4wd diesel	379-□FI	L4
15	17	GMC Caballero Pickup 2wd	305-4bc	L3
15	17	Chevrolet El Camino Pickup 2wd	305-4bc	L3
15	20	Chevrolet R10 Pickup 2wd	305-FI	M4
15	18	Chevrolet R10 Pickup 2wd	305-FI	M4C
15	20	GMC R15 Pickup 2wd	305-FI	M4
15	18	GMC R15 Pickup 2wd	305-FI	M4C
15	16	Chevrolet R20 Pickup 2wd	262-FI	A3
15	19	Chevrolet R20 Pickup 2wd	262-FI	L4
15	18	Chevrolet R20 Pickup 2wd	305-FI	M4C
15	17	Chevrolet R20 Pickup 2wd	262-FI	M4C
15	16	GMC R25 Pickup 2wd	262-FI	A3
15	19	GMC R25 Pickup 2wd	262-FI	L4
15	18	GMC R25 Pickup 2wd	305-FI	M4C
15	17	GMC R25 Pickup 2wd	262-FI	M4C
15	16	Nissan Truck 4wd	181-FI	L3
15	18	Nissan Truck 4wd	181-FI	M5
15	18	Chevrolet V10 Pickup 4wd	262-FI	L4
15	18	Chevrolet V10 Pickup 4wd	262-FI	M4
15	18	GMC V15 Pickup 4wd	262-FI	L4
15	18	GMC V15 Pickup 4wd	262-FI	M4
14	16	Dodge D100/D150 Pickup 2wd	225-1bc	A3
14	17	Dodge D100/D150 Pickup 2wd	225-1bc	M4
14	18	Ford F150 Pickup 2wd	302-FI	L4
14	18	Ford F250 Pickup 2wd	302-FI	L4
14	19	Jeep J-10 Std Pickup 4wd	258-2bc	M4
14	16	Chevrolet R10 Pickup 2wd	305-FI	A3
14	18	Chevrolet R10 Pickup 2wd	350-FI	L4
14	18	Chevrolet R10 Pickup 2wd	305-FI	L4
14	16	Chevrolet R10 Pickup 2wd	350-FI	M4C
14	16	GMC R15 Pickup 2wd	305-FI	A3
14	18	GMC R15 Pickup 2wd	350-FI	L4
14	18	GMC R15 Pickup 2wd	305-FI	L4
14	16	GMC R15 Pickup 2wd	350-FI	M4C
14	16	Chevrolet R20 Pickup 2wd	305-FI	A3
14	17	Chevrolet R20 Pickup 2wd	350-FI	L4
14	18	Chevrolet R20 Pickup 2wd	305-FI	L4
14	16	Chevrolet R20 Pickup 2wd	350-FI	M4C
14	16	GMC R25 Pickup 2wd	305-FI	A3
14	17	GMC R25 Pickup 2wd	350-FI	L4
14	18	GMC R25 Pickup 2wd	305-FI	L4
14	16	GMC R25 Pickup 2wd	350-FI	M4C
14	17	Chevrolet V10 Pickup 4wd	305-FI	L4
14	17	Chevrolet V10 Pickup 4wd	305-FI	M4
14	16	Chevrolet V10 Pickup 4wd	305-FI	M4C
14	17	GMC V15 Pickup 4wd	305-FI	L4
14	17	GMC V15 Pickup 4wd	305-FI	M4
14	16	GMC V15 Pickup 4wd	305-FI	M4C
14	17	Dodge W100/W150 Pickup 4wd	225-□1bc	M4C
13	15	Dodge D100/D150 Pickup 2wd	318-2bc	A3
13	16	Dodge D100/D150 Pickup 2wd	318-□2bc	A3
13	17	Dodge D100/D150 Pickup 2wd	318-□2bc	L3
13	17	Dodge D100/D150 Pickup 2wd	318-2bc	M4
13	15	Dodge D250 Pickup 2wd	318-2bc	A3
13	15	Dodge D250 Pickup 2wd	318-□2bc	A3
13	15	Chevrolet V10 Pickup 4wd	305-FI	A3
13	16	Chevrolet V10 Pickup 4wd	350-FI	L4
13	15	Chevrolet V10 Pickup 4wd	350-FI	M4C
13	15	GMC V15 Pickup 4wd	305-FI	A3
13	16	GMC V15 Pickup 4wd	350-FI	L4
13	15	GMC V15 Pickup 4wd	350-FI	M4C
13	16	Chevrolet V20 Pickup 4wd	350-FI	L4
13	16	GMC V25 Pickup 4wd	350-FI	L4
12	18	Dodge D100/D150 Pickup 2wd	318-□2bc	M4
12	15	Dodge D100/D150 Pickup 2wd	318-2bc	M4C
12	13	Dodge D100/D150 Pickup 2wd	360-□4bc	M4C
12	13	Dodge D250 Pickup 2wd	360-□4bc	M4C
12	15	Dodge D250 Pickup 2wd	318-2bc	M4C
12	13	Ford F150 Pickup 2wd	351-FI	A3
12	13	Ford F250 Pickup 2wd	351-FI	A3
12	15	Chevrolet V20 Pickup 4wd	350-FI	M4C
12	15	GMC V25 Pickup 4wd	350-FI	M4C
12	14	Dodge W100/W150 Pickup 4wd	318-□2bc	A3
12	14	Dodge W100/W150 Pickup 4wd	318-2bc	A3
12	15	Dodge W100/W150 Pickup 4wd	318-2bc	M4C
11	15	Dodge D100/D150 Pickup 2wd	360-□4bc	A3
11	15	Dodge D100/D150 Pickup 2wd	318-□2bc	M4C
11	13	Dodge D250 Pickup 2wd	360-□4bc	A3
11	15	Dodge D250 Pickup 2wd	318-□2bc	M4C
11	13	Ford F150 Pickup 4wd	351-4bc	A3
11	12	Ford F250 Pickup 4wd	351-4bc	A3
11	13	Jeep J10 Std Pickup 4wd	360-□2bc	A3
11	13	Jeep J20 Std Pickup 4wd	360-□2bc	A3
11	13	Dodge W100/W150 Pickup 4wd	360-□4bc	M4C
11	14	Dodge W100/W150 Pickup 4wd	318-□2bc	M4C
11	13	Dodge W250 Pickup 4wd	318-□2bc	A3
11	14	Dodge W250 Pickup 4wd	318-□2bc	M4C
11	13	Dodge W250 Pickup 4wd	360-□4bc	M4C
10	12	Dodge W100/W150 Pickup 4wd	360-□4bc	A3
9	11	Dodge W250 Pickup 4wd	360-□4bc	A3

VANS

Est. MPG City	Hwy.	Car Line	CID & Fuel System	Trans.
26	28	Ford Aerostar Van	140-FI	M5
22	26	Ford Aerostar Wagon	140-FI	M5
22	24	Toyota Cargo Van 2wd	137-FI	M5
22	24	Toyota Van 2wd	137-FI	M5
21	26	Ford Aerostar Van	140-FI	L4
21	25	Chevrolet Astro 2wd (Cargo)	151-FI	M4
21	27	Chevrolet Astro 2wd (Cargo)	151-FI	M5
21	23	Toyota Cargo Van 2wd	137-FI	L4
21	22	Toyota Cargo Van 4wd	137-FI	M5
21	25	GMC Safari 2wd (Cargo)	151-FI	M4
21	27	GMC Safari 2wd (Cargo)	151-FI	M5
21	23	Toyota Van 2wd	137-FI	L4
20	21	Toyota Cargo Van 4wd	137-FI	L4
20	24	Chevrolet G10-20 2wd diesel	379-□FI	M4
20	24	GMC G15-25 Vandura 2wd diesel	379-□FI	M4
20	21	Toyota Van 4wd	137-FI	L4
20	22	Toyota Van 4wd	137-FI	M5
19	24	Ford Aerostar Van	183-FI	M5
19	24	Chevrolet Astro 2wd (Cargo)	151-FI	L4
19	23	Chevrolet G10/20 2wd diesel	379-□FI	L4
19	23	GMC G15/25 Vandura 2wd diesel	379-□FI	L4
19	24	GMC Safari 2wd (Cargo)	151-FI	L4
18	24	Ford Aerostar Van	183-FI	L4
18	23	Chevrolet G10/20 Sportvan 2wd diesel	379-□FI	L4
18	21	Chevrolet G10/20 Sportvan 2wd diesel	379-□FI	M4
18	23	GMC G15/25 Rally 2wd diesel	379-□FI	L4
18	21	GMC G15/25 Rally 2wd diesel	379-□FI	M4
18	21	Nissan Van (Cargo)	146-FI	L4
18	22	Nissan Van (Cargo)	146-FI	M5
18	21	Nissan Van (Passenger)	146-FI	L4
18	22	Nissan Van (Passenger)	146-FI	M5
17	22	Ford Aerostar Wagon	183-FI	L4
17	22	Ford Aerostar Wagon	183-FI	M5
17	22	Chevrolet Astro 2wd (Cargo)	262-FI	L4
17	24	Chevrolet Astro 2wd (Cargo)	262-FI	M5
17	22	Chevrolet Astro 2wd (Passenger)	262-FI	L4
17	23	Chevrolet Astro 2wd (Passenger)	262-FI	M5
17	20	Chevrolet G10/20 Van 2wd	262-FI	M3
17	20	GMC G15/25 Vandura 2wd	262-FI	M3
17	22	GMC Safari 2wd (Cargo)	262-FI	L4
17	24	GMC Safari 2wd (Cargo)	262-FI	M5
17	22	GMC Safari 2wd (Passenger)	262-FI	L4
17	23	GMC Safari 2wd (Passenger)	262-FI	M5
16	17	Dodge B150/B250 Van 2wd	225-□1bc	L3
16	20	Dodge B150/B250 Van 2wd	225-□1bc	M4
16	18	Chevrolet G10/20 Van 2wd	262-FI	A3
16	20	Chevrolet G10/20 Van 2wd	262-FI	L4
16	18	GMC G15/25 Vandura 2wd	262-FI	A3
16	20	GMC G15/25 Vandura 2wd	262-FI	L4
16	18	Volkswagen Vanagon 2wd	129-FI	M4
15	17	Dodge B150/B250 Wagon 2wd	225-□1bc	L3
15	19	Dodge B150/B250 Wagon 2wd	225-□1bc	M4
15	18	Chevrolet G10/20 Sportvan 2wd	262-FI	L4
15	17	Chevrolet G10/20 Sportvan 2wd	262-FI	M3
15	18	Chevrolet G10/20 Van 2wd	305-FI	M3
15	19	Chevrolet G10/20 Van 2wd	305-FI	M4
15	18	GMC G15/25 Rally 2wd	262-FI	L4
15	17	GMC G15/25 Rally 2wd	262-FI	M3
15	18	GMC G15/25 Vandura 2wd	305-FI	M3
15	19	GMC G15/25 Vandura 2wd	305-FI	M4
15	19	Chevrolet G30 Van 2wd	262-FI	L4
15	19	GMC G35 Vandura 2wd	262-FI	L4
15	15	Volkswagen Vanagon Syncro 4wd	129-FI	C5
14	16	Dodge B150/B250 Van 2wd	225-1bc	A3
14	17	Dodge B150/B250 Van 2wd	225-1bc	M4
14	18	Ford E150 Econoline 2wd	302-FI	L4
14	16	Chevrolet G10/20 Van 2wd	305-FI	A3
14	18	Chevrolet G10/20 Van 2wd	350-FI	L4
14	18	Chevrolet G10/20 Van 2wd	305-FI	L4
14	16	GMC G15/25 Vandura 2wd	305-FI	A3
14	18	GMC G15/25 Vandura 2wd	350-FI	L4
14	18	GMC G15/25 Vandura 2wd	305-FI	L4
14	16	Volkswagen Vanagon 2wd	129-FI	A3
13	15	Dodge B150/B250 Van 2wd	318-2bc	A3
13	15	Dodge B150/B250 Van 2wd	318-□2bc	A3
13	17	Dodge B150/B250 Van 2wd	318-□2bc	L3
13	17	Dodge B150/B250 Van 2wd	318-2bc	M4
13	15	Dodge B150/B250 Wagon 2wd	225-1bc	A3
13	16	Dodge B150/B250 Wagon 2wd	318-□2bc	L3
13	17	Dodge B150/B250 Wagon 2wd	318-2bc	M4
13	15	Dodge B350 Van 2wd	318-2bc	A3
13	15	Dodge B350 Van 2wd	318-□2bc	A3
13	17	Ford E150 Club Wagon	302-FI	L4
13	17	Ford E250 Econoline 2wd	302-FI	L4
13	17	Chevrolet G10/20 Sportvan 2wd	305-FI	L4
13	16	Chevrolet G10/20 Sportvan 2wd	350-FI	L4
13	16	GMC G15-25 Rally 2wd	350-FI	L4
13	17	GMC G15-25 Rally 2wd	305-FI	L4
13	17	Chevrolet G30 Sportvan 2wd	350-FI	L4
13	17	GMC G35 Rally 2wd	350-FI	L4
12	18	Dodge B150/B250 Van 2wd	318-□2bc	M4
12	14	Dodge B150/B250 Wagon 2wd	318-□2bc	A3
12	14	Dodge B150/B250 Wagon 2wd	318-2bc	A3
12	18	Dodge B150/B250 Wagon 2wd	318-□2bc	M4
12	14	Dodge B350 Wagon 2wd	318-2bc	A3
12	14	Dodge B350 Wagon 2wd	318-□2bc	A3
11	13	Dodge B150/B250 Van 2wd	360-□4bc	A3
11	12	Dodge B350 Van 2wd	360-□4bc	A3
11	13	Ford E150 Club Wagon	351-4bc	A3
11	13	Ford E150 Econoline 2wd	351-4bc	A3
11	13	Ford E250 Econoline 2wd	351-4bc	A3
10	12	Dodge B150/B250 Wagon 2wd	360-□4bc	A3
10	12	Dodge B350 Wagon 2wd	360-□4bc	A3

SPECIAL PURPOSE VEHICLES

Est. MPG City	Hwy.	Car Line	CID & Fuel System	Trans.
28	29	Jeep Cherokee/Wagoneer 4wd turbodiesel	126-□FI	M5
27	29	Suzuki Samurai Convertible	81-2bc	M5
27	29	Suzuki Samurai Hardtop	81-2bc	M5
25	25	Isuzu Trooper turbodiesel	137-□FI	M5
24	29	Subaru Hatchback 4wd	109-2bc	M4
24	28	Subaru Hatchback 4wd	109-□2bc	M4
24	29	Subaru Sedan 3-door 4wd	109-FI	M5
24	29	Subaru Wagon 4wd	109-FI	M5
23	24	Subaru Sedan 3-door 4wd	109-FI	A3
22	29	Dodge Caravan/Ram Van 2wd	135-□2bc	M5
22	26	Jeep Cherokee 2wd	150-★FI	M4
22	23	Subaru Sedan 3-door 4wd	109-□2bc	A3
22	28	Subaru Sedan 3-door 4wd	109-□2bc	M5
22	24	Subaru Wagon 4wd	109-FI	A3
22	28	Subaru Wagon 4wd	109-□2bc	M5
22	25	Chevrolet T10 Blazer 4wd	151-FI	M4
22	25	GMC T15 Jimmy 4wd	151-FI	M4
21	28	Dodge Caravan/Ram Van 2wd	135-2bc	M5
21	25	Jeep Cherokee 2wd	150-★FI	M5
21	25	Jeep Cherokee/Wagoneer 4wd	150-★FI	M4
21	23	Subaru Wagon 4wd	109-□2bc	A3
21	25	Chevrolet S10 Blazer 2wd	151-FI	M4
21	27	Chevrolet S10 Blazer 2wd	151-FI	M5
21	25	GMC S15 Jimmy 2wd	151-FI	M4
21	27	GMC S15 Jimmy 2wd	151-FI	M5
21	26	Chevrolet T10 Blazer 4wd	151-FI	M5
21	26	GMC T15 Jimmy 4wd	151-FI	M5
21	28	Plymouth Voyager 2wd	135-2bc	M5
21	28	Plymouth Voyager 2wd	135-□2bc	M5
20	23	Dodge Caravan/Ram Van 2wd	135-□2bc	A3
20	23	Jeep Cherokee/Wagoneer 4wd	150-★FI	M5
20	23	Plymouth Voyager 2wd	135-□2bc	A3
20	23	Toyota 4Runner 4wd	144-FI	M5
19	22	Dodge Caravan/Ram Van 2wd	156-□2bc	A3
19	22	Dodge Caravan/Ram Van 2wd	152-FI	A3
19	21	Dodge Caravan/Ram Van 2wd	135-2bc	A3
19	27	Dodge Caravan/Ram Van 2wd	152-FI	M5
19	24	Jeep Cherokee 2wd	150-★FI	L4
19	23	Jeep Cherokee/Wagoneer 4wd	150-★FI	L4
19	25	Dodge Colt Vista 4wd	122-2bc	M5
19	25	Plymouth Colt Vista 4wd	122-2bc	M5
19	23	Nissan Stanza Wagon 4wd	120-FI	M5
19	24	Chevrolet S10 Blazer 2wd	151-FI	L4
19	19	Chevrolet S10 Cab Chassis 2wd	151-FI	M4
19	19	GMC S15 Cab Chassis 2wd	151-FI	M4
19	24	GMC S15 Jimmy 2wd	151-FI	L4
19	23	Chevrolet T10 Blazer 4wd	151-FI	L4
19	23	GMC T15 Jimmy 4wd	151-FI	L4
19	22	Plymouth Voyager 2wd	156-□2bc	A3
19	22	Plymouth Voyager 2wd	152-FI	A3
19	27	Plymouth Voyager 2wd	152-FI	M5
19	22	Toyota 4Runner 4wd	144-FI	L4
18	22	Ford Bronco II 4wd	179-FI	M5
18	23	Jeep Cherokee 2wd	242-☆FI	M5
18	23	Jeep Cherokee/Wagoneer 4wd	242-☆FI	M5
18	23	Chevrolet R10 Suburban 2wd diesel	379-□FI	L4
18	23	GMC R15 Suburban 2wd diesel	379-□FI	L4
18	20	Jeep Wrangler 4wd	150-★FI	M5
17	23	Ford Bronco II 2wd	179-FI	L4
17	22	Ford Bronco II 4wd	179-FI	L4
17	21	AMC Eagle 4wd	258-2bc	M5
17	18	Mitsubishi Montero	156-2bc	A4
17	20	Mitsubishi Montero	156-2bc	M5
17	18	Dodge Raider	156-2bc	A4
17	20	Dodge Raider	156-2bc	M5
17	23	Chevrolet S10 Blazer 2wd	173-FI	L4
17	22	Chevrolet S10 Blazer 2wd	173-FI	M4
17	24	Chevrolet S10 Blazer 2wd	173-FI	M5
17	23	GMC S15 Jimmy 2wd	173-FI	L4
17	22	GMC S15 Jimmy 2wd	173-FI	M4
17	24	GMC S15 Jimmy 2wd	173-FI	M5
17	21	Jeep Wrangler 4wd	258-2bc	M5
17	19	Toyota 4Runner 4wd Turbo	144-FI	L4
16	16	Toyota Cab-Chassis 2wd	144-FI	M4
16	21	Jeep Cherokee 2wd	242-☆FI	L4
16	21	Jeep Cherokee/Wagoneer 4wd	242-☆FI	L4
16	19	AMC Eagle 4wd	258-2bc	A3
16	19	Nissan Pathfinder 4wd	146-FI	M5
16	19	Chevrolet S10 Blazer 2wd	173-FI	L3
16	19	GMC S15 Jimmy 2wd	173-FI	L3
16	20	Chevrolet T10 Blazer 4wd	173-FI	L4
16	20	Chevrolet T10 Blazer 4wd	173-FI	M4
16	22	Chevrolet T10 Blazer 4wd	173-FI	M5
16	20	GMC T15 Jimmy 4wd	173-FI	L4
16	20	GMC T15 Jimmy 4wd	173-FI	M4
16	22	GMC T15 Jimmy 4wd	173-FI	M5
16	20	Chevrolet V10 Blazer 4wd diesel	379-□FI	L4
16	21	Chevrolet V10 Suburban 4wd diesel	379-□FI	L4
16	20	GMC V15 Jimmy 4wd diesel	379-□FI	L4
16	21	GMC V15 Suburban 4wd diesel	379-□FI	L4
16	18	Jeep Wrangler 4wd	258-2bc	A3
15	16	Jeep Grand Wagoneer 4wd	258-2bc	A3
15	16	Nissan Pathfinder 4wd	181-FI	L3
15	18	Nissan Pathfinder 4wd	181-FI	M5
14	19	Jeep Grand Wagoneer 4wd	258-2bc	M4
14	18	Chevrolet R10 Suburban 2wd	305-FI	L4
14	18	GMC R15 Suburban 2wd	305-FI	L4
14	15	Chevrolet S10 Cab Chassis 2wd	173-FI	L4
14	15	Chevrolet S10 Cab Chassis 2wd	173-FI	M4
14	15	GMC S15 Cab Chassis 2wd	173-FI	L4
14	15	GMC S15 Cab Chassis 2wd	173-FI	M4
14	14	Nissan Truck Cab Chassis 2wd	181-FI	M5
14	16	Chevrolet V10 Blazer 4wd	305-FI	M4C
14	16	GMC V15 Jimmy 4wd	305-FI	M4C
13	15	Dodge AD150 Ramcharger 2wd	318-2bc	A3
13	15	Dodge AD150 Ramcharger 2wd	318-□2bc	A3
13	17	Dodge AD150 Ramcharger 2wd	318-□2bc	L3
13	13	Toyota Cab-Chassis 2wd	144-FI	A4
13	15	Land Rover Ltd. Range Rover	215-FI	L4
13	17	Chevrolet R10 Suburban 2wd	350-FI	L4
13	17	GMC R15 Suburban 2wd	350-FI	L4
13	16	Chevrolet V10 Blazer 4wd	350-FI	L4
13	17	Chevrolet V10 Blazer 4wd	305-FI	L4
13	16	Chevrolet V10 Suburban 4wd	350-FI	L4
13	16	GMC V15 Jimmy 4wd	350-FI	L4
13	17	GMC V15 Jimmy 4wd	305-FI	L4
13	16	GMC V15 Suburban 4wd	350-FI	L4
12	12	Nissan Truck Cab Chassis 2wd	181-FI	L4
12	15	Chevrolet V10 Blazer 4wd	350-FI	M4C
12	14	Chevrolet V10 Suburban 4wd	350-FI	M4C
12	15	GMC V15 Jimmy 4wd	350-FI	M4C
12	14	GMC V15 Suburban 4wd	350-FI	M4C
11	13	Dodge AD150 Ramcharger 2wd	360-□4bc	A3
11	13	Dodge AW150 Ramcharger 4wd	318-□2bc	A3
11	13	Dodge AW150 Ramcharger 4wd	318-2bc	A3
11	13	Dodge AW150 Ramcharger 4wd	360-□4bc	M4C
11	14	Dodge AW150 Ramcharger 4wd	318-□2bc	M4C
11	12	Ford Bronco 4wd	351-4bc	A3
11	13	Jeep Grand Wagoneer 4wd	360-□2bc	A3
11	13	Toyota Land Cruiser Wagon 4wd	258-□2bc	M4
10	12	Dodge D250 Cab Chassis 2wd	360-□4bc	A3
9	11	Dodge AW150 Ramcharger 4wd	360-□4bc	A3

NOTE: All are feedback fuel systems (FFS) unless otherwise indicated. □ = Not FFS. ☆ = Multipoint Fuel Injection. ★ = Single Port Fuel Injection.

Transmissions: A = automatic, C = creeper; L = lockup; M = manual.

Clenet designs a new vehicle — a 4wd sport-utility

By Matt DeLorenzo
AUTOMOTIVE NEWS STAFF REPORTER

LOS ANGELES — Alain Clenet, best known for the neoclassic car bearing his name, has designed a four-wheel-drive sport-utility vehicle that he hopes to market either through a new company or one of the Big Four U.S. automakers.

Clenet said he has developed a new concept for his vehicle, one that promises low manufacturing costs, enabling the 4x4 to be sold in the $7,000 to $10,000 range.

"All 4wd vehicles in the world are following in the tradition started by Jeep, using a rigid axle and a short wheelbase," Clenet said. He said that his concept "has more in common with a motorcycle than a Jeep or a tank."

Clenet said he and his partner, Mark Stehrnberger, have designed a car that is inexpensive to build, has a light unsprung weight, independent suspension and long wheel travel to absorb bumps.

The vehicle, which will weigh between 2,300 and 2,500 pounds, is about the size of a Jeep CJ, Clenet said. However, he claimed that the styling is "two generations ahead of the Jeep Wrangler."

Clenet said the secret to keeping manufacturing costs down on his proposed vehicle is the unique design which calls for a longitudinal mounting of a conventional front-wheel-drive engine and transaxle combination in the center of the vehicle. Clenet said that with the transaxle pointing fore and aft, the output shafts are connected to small differentials at the front and rear to power all four wheels.

The system is designed to be full-time 4wd. Independent MacPherson struts provide the suspension all the way around. Clenet said this use of a front-wheel-drive powerplant eliminates the need for a transfer case and, when coupled with a suspension similar to those on fwd cars, manufacturing costs will be greatly reduced.

According to his plan, the vehicle would be powered by a 2.5-liter four-cylinder engine in normally aspirated and turbocharged versions providing 130 to 180 horsepower.

Clenet said he approached a manufacturer formerly in the sport-utility market, but the deal fell through. He declined to elaborate. However, a U.S. manufacturer that fits the description is Navistar which, when called International Harvester, built the Scout.

Clenet said one of the Big Four domestic auto manufacturers has first right of refusal on the project but, again, he declined to specify which one. His statement about a 2.5-liter four-cylinder engine mated to a transaxle could apply to Chrysler.

Clenet is constructing a full-sized mockup and anticipates building four prototypes for further study. Stehrnberger/Clenet Design has been given a contract for the work by a new company, Asha Corp., formed by Clenet. Asha's stock is being traded on the Denver and Spokane, Wash., stock exchanges.

Clenet said about $500,000 worth of "A" warrants have been sold. Asha hopes to sell $2 million worth of "A" warrants to cover design and $5 million in "B" warrants to bring the design to prototype stage.

Clenet said it's possible the vehicle will be finished in time for a late 1988 introduction as a 1989 model.

"We feel strong this time," Clenet said, alluding to the troubles encountered by his former neoclassic car company which was forced into involuntary bankruptcy by creditors. Clenet Coachworks was eventually sold and restarted by a former employee, Al DiMora.

AUCTION DATES

American Motors

Oct. 28 — High Point Auction, High Point, N.C.

Oct. 29 — Columbus Fair Auto Auction, Columbus, Ohio, and Kansas City Auto Auction, Kansas City, Mo.

Oct. 30 — Corry Auto Auction, Corry, Pa.; Minneapolis Northstar Auto Auction, Shakopee, Minn.; and Evansville Auto Auction, Evansville, Ind.

General Motors

Oct. 29 — Atlanta Auto Auction, Red Oak, Ga., and Golden Gate Auto Auction, Fremont, Calif.

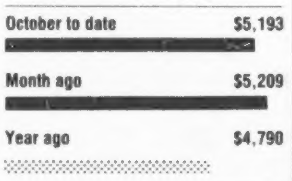
Chrysler Corp.

Oct. 28 — Hatfield Auto Auction, Hatfield, Pa.; Aptco Auto Auction, Taylor, Mich.; Metro Auto Auction of Kansas City, Lee's Summit, Mo.; and NuCarPrep System, Santa Fe Springs, Calif.

Oct. 29 — Butler Auto Auction, Gibsonia, Pa.; Sand Mountain Auto Auction, Boaz, Ala.; and Minneapolis Auto Auction, Plymouth, Minn.

Oct. 30 — Clanton's Auto Auction, Darlington, S.C.; Northway Exchange Auto Auction, Clifton Park, N.Y.; and Indianapolis Auto Auction, Indianapolis

Used Car Sales
Auction Averages



Model Breakdown
Auction Averages

	OCT 1986	SEP 1986	AUG 1986
1986	$11,618	$11,846	$12,136
1985	$8,440	$8,472	$8,520
1984	$6,215	$6,221	$6,242
1983	$5,448	$5,459	$5,502
1982	$4,224	$4,261	$4,337
1981	$3,281	$3,333	$3,388
1980	$2,431	$2,463	$2,505
1979	$2,090	$2,109	$2,145
Overall Average	$5,193	$5,206	$5,237

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Renault making up lost ground in European sales

By Richard Johnson
AUTOMOTIVE NEWS STAFF REPORTER

FRANKFURT, West Germany — Renault is reclaiming chunks of the European new-car market it has given up over the past several years.

A recent sales revival has narrowed the gap between the French government's embattled carmaker and the five other full-range producers in Europe. But Renault remained in sixth and last place among volume manufacturers through September, according to industry estimates compiled by Automotive News.

The Volkswagen Group continued to lead the European sales race at the three-quarter mark, while Japanese makers boosted market share in September.

New-car sales in Europe totaled 8,921,700 for the first nine months of 1986, up 8.3 percent over the January-September period last year. The European market is still on pace to eclipse the record 10.6 million cars sold in 1985.

While the industry was up 11.4 percent overall in September, Renault spurted 22.1 percent — by far the biggest gain among the six volume producers. The sales comeback, sparked by introduction of the R-21 sedan last spring and aggressive marketing at home, is a key element in Renault's general recovery.

Renault's European sales last month totaled 83,900, up from 68,700 in September, 1985. The French company trailed its 1985 pace by nearly 2 percent at midyear, but is now 3.6 percent ahead of 1985 with sales of 896,400.

Renault's market share edged up from 9.9 percent to 10 percent during the third quarter, while every other volume builder in Europe except Ford suffered a decline in market share in the wake of Japanese competition.

Ford's third-quarter numbers reflected the annual August selling peak in the United Kingdom, where the company is dominant. August sales in the U.K. traditionally dwarf those of other months because of the model-year changeover.

Top executives at Renault say the company will achieve 11 percent of the European market by the end of this year. However, that is still a far cry from 1982, when Renault led all makers with 14.6 percent.

The company had a strong September in several key markets. It was up 67 percent in the U.K., 30.5 percent in West Germany, 12.3 percent in Spain, 33.3 percent in the Netherlands, 32.4 percent in Switzerland and 46 percent in Austria.

But the most important gains were made at home. Renault sales in France increased 24.6 percent last month, while rival Peugeot SA was down 6.2 percent. Renault captured 30.9 percent of the French market share in September with sales of 39,000 units. PSA had 28.6 percent on sales of 36,100.

Peugeot SA maintained a nine-month advantage in its home market. Including the Peugeot, Citroen and Talbot marques, PSA has sold 437,300 cars to Renault's 410,100.

Renault's aggressive pricing strategy in France has drawn criticism from PSA. However, Renault Chairman Georges Besse and sales and marketing chief Jose Dedeurwaerder have recently denied any schemes to restore market share at the expense of profitability.

Overall, the VW Group, including Audi and Seat, held on to 14.4 percent of the nine-month European market and first place with sales of 1,287,000. But the group's share was down from 14.6 percent at midyear.

The Fiat Group is a strong second in the European standings with nine-month sales of 1,121,900 and 12.6 percent of the market. While Fiat volume was up 14.8 percent in September and up 10.1 for the year, its European market share slipped from 13 percent at the half-year point.

Ford was next with sales of 1,057,900 and an 11.9 percent share through the first nine months. Sales were up 7 percent for the year. General Motors was at 11.2 percent on sales of 1,002,000, an increase of 4.9 percent over the first nine months of 1985. GM's share at the end of June was 11.4 percent.

PSA's share dipped slightly from 11.2 percent at midyear to 11.1 percent at the three-quarter mark. Sales totaled 991,200 through September, an increase of 7.

Much of the market share surrendered by the Big Six has gone to Japanese companies, which boosted their sales last month. Japanese manufacturers had a combined share of 13.7 percent in September, up from 13.2 percent in August. September's total of 118,300 was 19.5 percent better than the same month in 1985.

For the first nine months of this year, Japanese manufacturers were up 20.6 percent over 1985 and had 12 percent of the market. Toyota has increased its sales 25 percent, Nissan is up 12.6 percent, Mazda is ahead 21.3 percent and Honda has risen 19.9 percent.

Nissan continues to lead Toyota in the tight European competition between Japan's two largest makers. Through September, Nissan had sold 273,300 cars in Europe for 3.1 percent of the market, and Toyota had sold 266,000 for 3 percent.

EUROPEAN SALES

Manufacturer	9 mos., 1986	1986 share*	9 mos., 1985	Volume Change 1986 vs. 1985
VW-Audi-Seat	1,287,000	14.4	1,170,300	+ 9.9
Fiat Auto	1,121,900	12.6	1,018,800	+10.1
Japanese (all)	1,073,300	12.0	890,000	+20.6
Nissan	273,300	3.1	242,700	+12.6
Toyota	266,000	3.0	212,800	+25.0
Mazda	190,200	2.1	156,900	+21.3
Honda	113,200	1.3	94,000	+19.9
Ford	1,057,900	11.9	988,700	+ 7.0
General Motors**	1,002,000	11.2	955,000	+ 4.9
PSA***	991,200	11.1	918,500	+ 7.9
Renault	896,400	10.0	865,300	+ 3.6
Austin/Rover	334,400	3.7	340,400	− 1.7
Mercedes-Benz	334,200	3.7	306,300	+ 9.1
BMW	231,800	2.6	228,900	+ 1.2
Volvo	201,100	2.3	191,800	+ 4.9
Alfa Romeo	135,800	1.5	127,000	+ 6.9
Others	254,700	2.9	233,500	+ 9.1
Total	8,921,700	100.0	8,234,500	+ 8.3

*—Total does not add to 100 percent because of rounding.
**—Opel, Vauxhall, Isuzu, GM-U.S./Canada
***—Peugeot, Citroen, Talbot

DOMESTIC SALES

	Oct. 11-20, 1986	Oct. 11-20, 1985
Renault		
Alliance-Encore	1,499†	2,550†
AMC	351†	300†
AMERICAN MOTORS	1,850	2,850
Chrysler	9,713	9,232
Plymouth	8,848	7,781
Dodge	13,220	9,249
CHRYSLER CORP.	31,781	26,262
Ford	27,778	23,885
Mercury	5,537	8,527
Lincoln	8,560	4,154
FORD MOTOR CO.	41,875	36,566
Buick	16,106	16,441
Cadillac	5,311	5,516
Chevrolet	25,406	29,152
Oldsmobile	18,517	20,739
Pontiac	16,224	17,108
GENERAL MOTORS	81,564	88,956
VOLKSWAGEN	1,426	1,443
HONDA	5,987	4,815
NISSAN	1,962	1,832
U.S. INDUSTRY TOTAL	166,446	162,724

†—Estimate

Incentives end; sales decline

By Louise Kertesz
AUTOMOTIVE NEWS STAFF REPORTER

With Big Three sales incentives discontinued, mid-October sales plunged 32.78 percent from the 247,623 cars sold in the first 10 days of October.

But the Oct. 11-20 total of 166,446 was up 2.29 percent from the year-ago period's 162,724.

Mid-October sales were nowhere near the record 334,290 cars sold during the period in 1971.

Honda posted the biggest year-to-year percentage gain: 24.34 percent. Chrysler was next with a gain of 21.02 percent, followed by Ford, up 14.52 percent and Nissan, up 7.10 percent.

American Motors, still offering zero percent annual-percentage-rate financing, was down 35.09 percent from a year ago. General Motors was down 8.31 percent, and Volkswagen was off 1.18 percent.

There were eight selling days in the Oct. 11-20 period this year and last.

EARNINGS

FROM PAGE 3

and marketable securities dropped to $3.9 billion by the end of the third quarter, down from $7.8 billion a year ago before the purchase of Hughes Aircraft.

Worldwide factory sales were 1,820,000 units for the third quarter, down from 2,150,000 in the year-ago quarter. For the year to date, GM sold 6,560,000 vehicles, down from 6,975,000 a year ago.

Nine-month profits for GM were $2.3 billion, down 15 percent from $2.7 billion.

On a per-share basis, earnings so far this year were $6.48 compared with $8.43 a year ago. Sales were $77.3 billion for the nine months, up 8 percent from $71.7 billion.

GM's third-quarter operating loss was further offset by higher profits for GM's subsidiaries — General Motors Acceptance Corp., General Motors Hughes Electronics and Electronic Data Systems.

GMAC: Net income was $313.7 million for the quarter, up 18 percent from $266.2 million a year ago.

For the first nine months, GMAC profits totaled $888.9 million, up 22 percent from $731.4 million in 1985.

GMAC said the increase in earnings resulted from growth in its earning assets, which averaged $82.0 billion for the third quarter and $77.3 billion for the first nine months, and also from lower borrowing costs.

In the third quarter, GMAC financed sales of 1,277,000 new GM vehicles, a record total. In September, when GM offered 2.9 percent financing, GMAC set a monthly record by financing 629,000 GM vehicles.

GM sold 697,728 vehicles in September and 1,674,080 for the quarter.

HUGHES: GMHE, the GM subsidiary which includes Hughes Aircraft and Delco Electronics, earned $148 million on sales and revenues of $2.5 billion. If GMHE had existed a year ago, it would have earned $137 million on $2.4 billion of sales.

For the first nine months, GMHE reported earnings of $439 million on sales of $7.9 billion. That would compare to $355 million on sales of $7.1 billion a year ago.

GMHE said Hughes Aircraft sales increased in the third quarter from year-ago levels while Delco Electronics had lower sales because of lower production rates of GM vehicles.

EDS: EDS reported a third-quarter profit of $71.1 million, or 58 cents per share, up 37 percent from $51.9 million, or 43 cents per share, a year earlier. Sales were $1.2 billion, up 26 percent from the year-ago quarter.

For the nine months, EDS profits were $189 million, up 43 percent, from $132 million. On a per share basis, EDS profits were $1.55 compared with $1.10.

FORD MOTOR CO.: Ford reported earnings of $693 million, or $2.61 per share. That represents a 121 percent increase from 1985's $313 million, or $1.48 per share. Earnings passed the previous third-quarter record of $380 million in 1984.

Ford's third-quarter profits included $102 million from the sales of Ford's North American paint operation and Ford Aerospace's interest in Starnet Corp.

Earnings outside of the U.S. were $86 million, compared with $102 million in the year-ago quarter. Ford said improved earnings in Europe were more than offset by less-favorable results in Asia-Pacific, primarily because of the strong yen relative to the U.S. and Australian dollars.

Sales were a third-quarter record at $14.4 billion, up 24 percent from 1985's $11.6 billion and up from the previous record of $11.8 billion in the third quarter of 1984.

Ford attributed the earnings improvement to higher factory sales and a more profitable product mix in North America as well as productivity improvements worldwide and the sale of two operations.

For the first nine months, Ford earned $2.5 billion, up 39 percent from $1.8 billion last year. Year-to-date sales totaled $46.5 billion, up 20 percent from $38.7 million a year ago.

Ford's cash and marketable securities increased during the third quarter to $8.1 billion, up from $5.9 billion a year ago.

Worldwide factory sales for the third quarter were 1,334,775 units, up from 1,241,119 a year ago. For the nine months, factory sales totaled 4,494,973, up from 4,191,928.

FORD CREDIT: Also contributing to Ford's earnings were higher profits for Ford Motor Credit Co. The finance subsidiary reported third-quarter profits of $156 million, up 63 percent form $96 million.

Because of low-interest-rate financing programs during the period, Ford Credit financed 613,000 vehicles in the United States, more than 100,000 higher than any quarter in Ford Credit's history. During the quarter, Ford Credit financed more than 50 percent of the new cars and trucks sold by Ford dealers in the United States, up from 48 percent a year ago.

For the first nine months, Ford Credit's income was $448 million, exceeding full-year 1985 earnings of $441 million, previously the record year.

The company's assets were $39.0 billion, up $9.6 billion, or 33 percent, from a year ago.

CHRYSLER CORP.: Chrysler Corp. reported net income in the third quarter of $235 million, or $1.60 per share, down 26 percent from $316 million, or $1.83 per share. It was Chrysler's third best third quarter for net earnings.

"But that doesn't tell the whole story any more," said Chrysler Chairman Lee Iacocca at a press conference to announce third-quarter results. "I'd characterize Chrysler's third quarter as our best ever considering the kind of competitive environment we've been playing in: The giant of the industry decides to peddle almost a million cars with fire-sale financing in just 42 days. We did GM's Big One one better with our 2.4 percent program. We still had operating earnings of $347 million and netted $235 million.

"GM and Ford lost market share during this 90-day donnybrook," Iacocca added. "We jumped during those 90 days to 12.2 percent market share."

Sales for the quarter were $5.2 billion, up 15 percent from $4.5 billion a year ago, setting a new third-quarter record.

For the first nine months of 1986, Chrysler's earnings totaled $1.1 billion, down 21 percent from $1.4 billion a year ago. Sales for the year totaled $16.6 billion, up 4 percent from 1985's $15.9 billion.

Chrysler's cash and marketable securities rose to $3.2 billion from $3.1 billion a year ago.

Worldwide factory sales for the quarter were 502,352, up from 472,344 in the year-ago quarter. In the first nine months, Chrysler's factory sales were 1,641,992 vehicles, up from 1,637,854.

CHRYSLER FINANCIAL: Also contributing to Chrysler's earnings were higher profits from Chrysler Financial Corp. The finance subsidiary reported record profits of $48 million, up 29 percent from the previous third-quarter record of $38 million set in 1985. CFC set a new nine-month record with profits of $134 million, 28 percent higher than the previous record of $105 million in the year-ago period.

The improved performance was due to special-rate finance programs offered by Chrysler during the period as well as contributions from CFC's recently acquired non-automotive financing operations.

Chrysler Credit, the auto financing arm of CFC, financed 213,554 new vehicles during the third quarter, or 41 percent of Chrysler's U.S. sales. That compares with 38 percent financed a year ago.

PRODUCTION

Week's output is 162,969, highest total since June

By Kathy Barbaglia
AUTOMOTIVE NEWS STAFF REPORTER

Last week's targeted domestic auto production was the highest for any week since June.

The automakers scheduled 162,969 cars. They had not exceeded that total since the week ended June 28, when 175,718 were assembled.

Estimated car production last week was 8.73 percent more than the previous week's 149,889 and 6.91 percent more than the year-ago week's 152,430. Production in the year-ago week was affected by the UAW strike against Chrysler Motors.

Companies divided last week's estimated production as follows: General Motors, 52.51 percent; Ford Motor Co., 23.68 percent; Chrysler Motors, 14.11 percent; Honda of America Manufacturing Inc., 3.99 percent; New United Motor Manufacturing Inc., 1.84 percent; Nissan Motor Manufacturing Co., U.S.A., 1.72 percent; Volkswagen of America, 1.23 percent; and American Motors, 0.92 percent.

GM's Flint, Mich. (Buick City), plant resumed output last Monday (Oct. 20) after being idle one week for inventory adjustment. GM's Janesville, Wis., plant returned last Monday after two weeks of downtime due to a materials shortage.

GM's Linden, N.J., and Lansing, Mich. (No. 1), plants were slated for overtime Saturday (Oct. 25).

Three Ford plants were scheduled for Saturday overtime: Wixom, Mich.; Wayne, Mich.; and Edison, N.J.

All Ford plants except the Edison facility are slated for daily overtime this week (Oct. 27).

Chrysler's Belvidere, Ill., and St. Louis (No. 2) plants were scheduled for overtime Saturday. Those plants, along with Chrysler's Sterling Heights, Mich., plant are slated for daily overtime this week.

Truck production dips 7%

United States truck production dipped last week as two Ford Motor Co. plants were idle for model changeover.

Last week's target of 64,844 units was 7.49 percent below the previous week's 70,094 but was exactly the same as the year-ago week's total.

Ford's Norfolk, Va., and Twin Cities, Minn., plants resumed output today (Oct. 27) after being down one week for model changeover.

General Motors' Pontiac, Mich., plant resumed output last week. The plant had been idle for inventory adjustment.

Saturday (Oct. 25) overtime was slated at GM's St. Louis plant.

Three Ford plants are scheduled for daily overtime this week (Oct. 27). They are Louisville, Ky.; Kansas City, Mo.; and St. Louis.

Chrysler's Warren, Mich., plant is slated for daily overtime this week.

Canada matches U.S. car upturn

Like their domestic counterparts, Canadian auto manufacturers posted the highest week's production in four months.

Last week's scheduled output of 25,518 cars was the fattest Canadian total since the week ended June 21, when 25,753 were completed.

The build was 31.64 percent more than the previous week's 19,385 (affected by the Thanksgiving holiday) and 3.52 percent more than the year-ago week's 24,650.

Truck output of 11,216 units last week dipped slightly (0.85 percent) from the prior week's 11,312 and was 1.59 percent below the year-ago week's 11,397.

CANADIAN CAR	Week Ended Oct. 25, 1986	Week Ended Oct. 26, 1985	Week Ended Oct. 18, 1986	Oct. to Date	Jan. 1 to Oct. 25, 1986	Jan. 1 to Oct. 26, 1985
AMERICAN MOTORS	120	410	101	396	9,345	3,437
FORD MOTOR	11,493	9,826	8,256	35,894	397,706	426,037
GENERAL MOTORS	13,680	14,187	10,848	45,612	447,332	412,825
VOLVO	225	225	180	765	8,098	8,115
Total Cars, Canada	25,518	24,650	19,385	82,667	862,481	850,414

U.S. TRUCK☆	Week Ended Oct. 25, 1986	Week Ended Oct. 26, 1985	Week Ended Oct. 18, 1986	Oct. to Date	Jan. 1 to Oct. 25, 1986	Jan. 1 to Oct. 26, 1985
CHEVROLET	24,447	17,108	23,518	84,966	976,524	975,823
DODGE	4,600	0	5,710	18,327	171,795	104,597
FORD	18,738	29,758	23,507	84,906	972,203	1,143,352
GMC	7,183	6,257	7,229	26,789	295,834	295,528
NAVISTAR	1,396	1,273	1,611	5,599	61,290	58,886
JEEP	4,400	5,858	4,441	15,954	185,426	154,180
NISSAN	1,730	2,540	1,726	6,144	89,408	92,679
AM GENERAL*	50	50	50	180	2,080	2,074
MISCELLANEOUS*	2,300	2,000	2,300	8,280	76,953	94,392
Total Trucks, U.S.	64,844	64,844	70,094	251,045	2,831,513	2,921,509

CANADIAN TRUCK	Week Ended Oct. 25, 1986	Week Ended Oct. 26, 1985	Week Ended Oct. 18, 1986	Oct. to Date	Jan. 1 to Oct. 25, 1986	Jan. 1 to Oct. 26, 1985
AMERICAN MOTORS	725	0	576	2,309	0	23,271
CHRYSLER	8,964	1,811	7,076	28,618	319,890	326,372
FORD	32	3,647	2,215	7,685	131,734	127,821
GENERAL MOTORS	1,334	5,737	1,285	3,743	227,440	179,746
NAVISTAR	161	202	160	642	9,290	7,642
Total Trucks, Canada	11,216	11,397	11,312	42,997	688,354	664,852
N. American Trucks	76,060	76,241	81,406	294,042	3,519,867	3,586,361

☆—Includes window van production. *—Estimated
Jeep includes commercial only. AM General includes government-destined vehicles.
Miscellaneous includes estimates for Mack, Volvo-White, Kenworth, Peterbilt, Freightliner, Mercedes-Benz, etc.
Monthly estimates may contain error of one or two units due to rounding.

U.S. CAR	Week Ended Oct. 25, 1986	Week Ended Oct. 26, 1985	Week Ended Oct. 18, 1986	Oct. to Date	Jan. 1 to Oct. 25, 1986	Jan. 1 to Oct. 26, 1985
AMERICAN MOTORS	1,500	2,580	1,480	3,867	93,105	43,842
Renault Total	1,500	2,580	1,480	3,867	93,105	43,842
Alliance	1,500	1,871	1,480	3,867	[illegible]	40,495
Encore	0	709	0	0	33,114	3,347
CHRYSLER MOTORS	23,000	0	27,084	91,401	1,027,082	1,075,266
Plymouth Total	8,700	0	9,906	34,081	297,714	339,830
Horizon	3,300	0	3,911	12,983	114,383	140,838
Sundance	1,500	0	1,571	4,994	0	18,616
Reliant	2,700	0	2,812	10,908	131,431	127,550
Caravelle	800	0	1,033	3,395	38,334	36,897
Gran Fury	400	0	581	1,801	13,566	15,919
Chrysler Total	5,300	0	6,609	22,298	333,497	321,709
Laser	0	0	0	0	42,556	26,978
LeBaron	1,000	0	1,086	3,790	73,087	72,426
LeBaron GTS	600	0	841	3,304	77,641	54,170
New Yorker/E-Class	1,100	0	1,271	4,408	52,766	60,071
Fifth Avenue	2,600	0	3,412	10,794	90,447	108,084
Dodge Total	9,000	0	10,567	35,024	391,871	413,729
Daytona	0	0	0	0	38,226	30,343
Omni	2,800	0	3,595	11,432	110,713	134,247
Shadow	1,400	0	1,526	5,016	0	17,438
Aries	3,100	0	3,192	10,670	110,115	101,442
Dodge 600	900	0	867	3,130	52,595	54,796
Lancer	400	0	626	2,395	53,391	41,182
Diplomat	400	0	761	2,382	27,831	34,281
FORD MOTOR	38,596	38,483	32,582	120,533	1,347,170	1,429,351
Ford Division	28,086	27,219	22,979	84,673	904,067	983,681
Escort	9,979	9,167	8,531	30,068	277,504	308,672
EXP	0	0	0	0	3,838	0
Mustang	2,089	4,713	604	3,517	150,157	147,896
Tempo	4,108	4,734	3,827	14,537	151,081	160,347
LTD	0	4,348	0	0	172,044	0
Taurus	9,248	292	9,011	32,504	546	258,248
Thunderbird	2,682	3,965	1,006	4,048	141,775	108,516
Crown Victoria	0	0	0	0	7,122	0
L-M Division	10,510	11,264	9,603	35,859	443,103	445,670
Mercury Total	5,797	7,587	5,533	19,943	311,378	299,439
Lynx	973	1,670	868	3,282	59,278	50,255
Capri	0	424	0	0	15,555	12,344
Topaz	1,324	1,251	1,183	4,593	46,201	47,523
Cougar	194	3,147	0	194	103,907	87,145
Marquis	0	956	0	0	81,432	0
Sable	3,306	139	3,482	11,874	272	102,172
Grand Marquis	0	0	0	0	4,733	0
Lincoln Total	4,713	3,677	4,070	15,916	131,725	146,231
Continental	474	509	403	1,593	20,895	15,955
Lincoln	[illegible]	2,756	3,050	11,936	96,273	109,678
Mark VII	704	412	617	2,387	14,557	20,598
GENERAL MOTORS	85,567	103,340	74,576	292,307	3,971,302	3,394,232
Buick Total	13,280	22,005	13,090	51,873	827,070	630,315
Skyhawk	1,858	2,312	1,800	6,541	86,394	69,526
Century	3,610	8,369	3,531	11,979	234,560	185,485
Regal	1,901	3,083	0	2,953	112,617	48,604
Skylark (X-car)	0	0	0	0	40,953	0
Somerset/Skylark	2,305	2,730	2,238	8,274	102,766	90,639
LeSabre (fwd)	0	592	4,743	12,644	2,567	127,278
LeSabre/Electra(rwd)	335	862	256	1,102	92,543	12,514
Electra(fwd)	2,426	3,936	0	6,767	108,674	75,302
Riviera	845	121	522	1,615	45,996	20,967
Cadillac Total	6,810	5,935	5,861	21,148	272,916	260,481
Cimarron	385	632	0	987	21,393	19,704
Cadillac (rwd)	1,200	625	1,188	4,069	32,742	66,652
DeVille (fwd)	4,015	4,450	3,714	13,488	140,581	137,226
Eldorado	730	141	519	1,489	51,135	19,849
Seville	480	87	440	1,125	27,065	18,050
Chevrolet Total	29,170	33,219	24,611	99,409	1,335,142	1,066,719
Chevette	2,295	2,143	2,453	8,796	131,123	83,963
Camaro	3,325	5,069	3,239	11,849	172,895	147,234
Cavalier	5,299	10,374	5,178	24,686	404,572	325,837
Celebrity	8,547	4,389	7,964	25,045	218,977	207,603
Citation	0	0	0	0	26,699	0
Corsica/Beretta	864	0	645	2,419	0	3,157
Monte Carlo	2,600	2,652	0	5,298	115,497	93,063
Chevrolet	5,600	7,590	4,512	19,040	223,355	182,367
Corvette	640	1,002	620	2,275	37,893	23,495
Oldsmobile Total	16,887	23,683	11,898	52,105	971,992	790,232
Firenza	1,000	1,221	1,138	3,603	51,482	32,187
Calais	2,719	3,327	2,708	9,476	123,028	97,313
Cutlass Ciera	4,103	8,194	3,978	14,026	290,709	198,404
Cutlass Supreme	1,626	5,186	0	3,635	192,420	95,562
88 (fwd)	3,274	1,599	1,774	9,134	5,218	242,647
88 (rwd)	480	531	556	1,577	163,196	15,813
Olds 98	3,077	3,536	1,360	9,497	118,227	93,241
Toronado	608	89	384	1,156	27,712	15,065
Pontiac Total	19,420	18,498	19,116	67,772	564,102	646,485
Acadian**	0	862	360	938	11,580	13,199
Fiero	1,760	2,412	1,761	6,270	95,242	56,286
1000	1,025	1,469	919	3,252	25,949	16,102
Firebird	2,125	2,465	2,104	7,495	92,278	89,091
2000 Sunbird	2,223	2,926	2,273	8,688	116,516	113,130
Grand Am	6,032	3,542	5,306	21,907	110,223	187,610
6000	2,880	1,872	2,886	8,529	43,593	110,471
Bonneville	3,050	0	3,380	9,719	0	13,421
Parisienne	325	2,950	127	974	67,801	47,175
HONDA	6,500	2,410	6,329	22,509	119,772	178,810
Civic	1,500	0	1,419	4,861	0	7,445
Accord	5,000	0	4,910	17,647	0	171,365
NISSAN	2,806	1,452	2,806	9,576	29,010	39,040
NUMMI	3,000	1,900	3,000	10,800	42,939	158,680
Corolla	110	0	110	396	0	330
Nova*	2,890	0	2,890	10,404	0	158,350
VOLKSWAGEN	2,000	2,265	2,032	7,072	77,680	68,500
Golf/GTI	2,000	0	2,032	7,072	0	68,500
Jetta	0	0	0	0	0	0
Total Cars, U.S.	162,969	152,430	149,889	558,065	6,708,060	6,387,731
Total Cars, Canada	25,518	24,650	19,385	82,667	862,481	850,414
N. American Cars	188,487	177,080	169,274	640,732	7,570,541	7,238,145
N. American Trucks	76,060	76,241	81,406	294,042	3,519,867	3,586,361
North American Cars and Trucks	264,547	253,321	250,680	934,774	11,090,408	10,824,506

*—Revised estimate. **—All Acadians are built for sale in Canada.
Monthly estimates may contain error of one or two units due to rounding.

Engineers await market for electric vehicle sales

By Geoff Sundstrom
AUTOMOTIVE NEWS STAFF REPORTER

WASHINGTON — It's a bit like praying for disaster, but engineers gathered here for the eighth annual International Electric Vehicle Symposium need another oil shortage.

Electric-vehicle research is continuing, but at a slow pace.

General Motors halted its electric van program some months ago, and Ford Motor Co. is doing limited research with money from the U.S. Department of Energy, which sponsored the symposium.

"We've accumulated a wealth of knowledge and experience about electric vehicles," a GM spokesman said, "but the economics are just not there."

Bradford Bates, director of Ford's electric-vehicle projects, said support for electric-vehicle research has been dampened by depressed oil prices, but he insisted that the work is paying off.

"We have to take the long view," he said.

Eaton Corp. also believes its electric-vehicle components program will benefit the company.

And Bates said that even if there are no commercial markets, Ford's work on electric vehicles is helping to develop drive-by-wire systems and engine-monitoring sensors.

Drive-by-wire refers to electronic vehicle-control devices that eliminate mechanical controls. Bates said many engineers consider them the next wave in on-board electronic controls.

Money from the Department of Energy has enabled Ford to build an electric transaxle system that couples energy efficiency with characteristics suitable for city and suburban traffic, Bates said. The program, called ETX-I, resulted in production of an electric-powered Mercury LN7, which will be tested at a government lab.

A more recent DOE award is paying for work on electrical subsystems and a more powerful transaxle, Bates said.

Eventually, the product will be mounted in a Ford Aerostar van. Bates said the goal of the three-year program, called ETX-II, is to advance electric-vehicle technology to the point that government and industry researchers can determine its commercial potential.

David Harris, North American operations manager for Britain's Lucas Chloride, said his firm had been supplying electric-vehicle drive systems to GM. The components have been used for the conversion of the GM Griffon, which had been produced in England for sale to utility companies in the United States. In England, it was sold as an electric Bedford van.

Unfortunately, Harris said, GM recently suspended the program, leaving about 400 orders unfilled in the United Kingdom. British truckmaker Leyland is expected to pick up the orders, he said.

GM's decision to abandon electric vehicles is a disappointment to electric utility companies in the United States. Several have used electric vehicles for light-duty field work. Through membership in the Electric Power Research Institute, the utilities have been funding work on electric vehicles through Electric Vehicle Development Corp., which was established for that purpose.